

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF NEW YORK

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ORBIS GLOBAL EQUITY LE FUND	:	
(AUSTRALIA REGISTERED), ORBIS GLOBAL	:	Case No.: _____
EQUITY FUND (AUSTRALIA REGISTERED),	:	
ORBIS GLOBAL BALANCED FUND	:	
(AUSTRALIA REGISTERED), ORBIS SICAV,	:	<b>JURY TRIAL DEMANDED</b>
ORBIS INSTITUTIONAL FUNDS LIMITED,	:	
ORBIS GLOBAL EQUITY FUND LIMITED,	:	
ORBIS INSTITUTIONAL GLOBAL EQUITY	:	
L.P., and ORBIS OEIC,	:	
	:	<b><u>COMPLAINT AND</u></b>
Plaintiffs,	:	<b><u>JURY DEMAND</u></b>
	:	
v.	:	
	:	
VALE S.A., MURILO FERREIRA, FABIO	:	
SCHVARTSMAN, LUCIANO SIANI PIRES,	:	
GERD PETER POPPINGA, and LUIZ EDUARDO	:	
FROES DO AMARAL OSORIO,	:	
	:	
Defendants.	:	
	:	

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Plaintiffs Orbis Global Equity LE Fund (Australia Registered), Orbis Global Equity Fund (Australia Registered), Orbis Global Balanced Fund (Australia Registered), Orbis SICAV, Orbis Institutional Funds Limited, Orbis Global Equity Fund Limited, Orbis Institutional Global Equity L.P., and Orbis OEIC (collectively, “Plaintiffs”) are purchasers of the publicly traded securities issued by Vale S.A. (“Vale,” or the “Company”). Plaintiffs, through their undersigned attorneys, by way of this Complaint and Jury Demand, for their federal securities and their common law claims against Vale and its present or former executive officers Murilo Ferreira, Fabio Schvartsman, Luciano Siani Pires, Gerd Peter Poppinga, and Luiz Eduardo Froes do Amaral Osorio (the “Individual Defendants,” and, collectively with Vale, the “Defendants”), allege the following upon personal knowledge as to themselves and their own acts, and upon information and belief as to all other matters.

Plaintiffs’ information and belief is based on, *inter alia*, an investigation by their attorneys, which investigation includes, among other things, a review and analysis of: Vale’s filings with the United States Securities and Exchange Commission (“SEC”); public documents and media reports concerning Vale; analyst reports concerning Vale; and transcripts of conference calls and earnings calls involving Defendants; pleadings, motion papers, exhibits to declarations filed in the matter *In re Vale S.A. Securities Litigation*, No. 19-cv-526-RJD-SJB (E.D.N.Y.) (the “Class Action”); and the Court’s May 20, 2020 Memorandum and Order and July 23, 2020 Memorandum and Order issued in the Class Action. Many of the facts supporting the allegations contained herein are known only to Defendants or are exclusively within their custody and/or control. Plaintiffs believe that further substantial evidentiary support will exist for the allegations in this Complaint after a reasonable opportunity for discovery.

### **NATURE OF THE ACTION**

1. This is an action to recover significant investment losses suffered as a result of securities fraud perpetrated by Defendants.

2. Vale is an international mining company based in Brazil. Among other businesses, Vale owns and operates iron mines in Brazil.

3. Iron mining generates certain solid and liquid byproducts, known as tailings, which mining companies, including Vale, store in dams, known as tailings dams, located near the mine site.

4. There are numerous methods to construct tailings dams. One of these methods—the upstream method—is the least expensive, but also the riskiest. Upstream tailings dams are extremely vulnerable to liquefaction when the tailings behind the dam are saturated with water. Liquefaction—where solid earth essentially behaves as a liquid—erodes the structure of the dam and increases the potential for the dam to rupture or collapse.

5. On November 5, 2015, an upstream tailings dam in Brazil at the Fundão mine operated by Samarco Mineração SA—a joint venture of Vale and BHP Billiton—in Mariana in the state of Minas Gerais, Brazil, collapsed, killing 19, destroying a nearby town and polluting the water supply of hundreds of thousands of residents. The cause of the Mariana dam collapse was liquefaction.

6. Following the November 2015 Mariana dam collapse, Brazil passed new dam safety legislation. These enhanced laws were opposed by certain legislators who reportedly received years of campaign donations from Vale, before corporate campaign donations were outlawed by Brazil's Supreme Court in 2015.

7. After the November 2015 Mariana dam collapse, Defendants made numerous statements about the safety and stability of Vale's tailings dams, the company's commitment to

safety and sustainability and the company's purportedly robust safety and risk management policies and practices.

8. Defendant Fabio Schvartsman took over as CEO of Vale in May 2017 and coined a new company motto: "Mariana, Never Again!" He told the press that sustainability was an "obligation" of Vale.

9. Vale's Sustainability Reports, issued in 2017 and 2018, assured investors such as Plaintiffs that Vale's tailings dams were managed in accordance with international dam safety practices.

10. Defendants publicly touted the "impeccable" and "impressive" conditions of Vale's tailings dams.

11. Unbeknownst to Plaintiffs and the rest of the market, Vale's statements about the stability of Vale's tailings dams, the company's commitment to safety and sustainability, and the company's purportedly robust safety and risk management policies and practices were false and misleading.

12. Despite Schvartsman's "Mariana, Never Again!" mantra and Vale's repeated statements about dam safety and stability, sustainability, safety and risk management, another dam tragedy occurred—this time, worse than the November 2015 dam collapse in Mariana.

13. On January 25, 2019, Dam 1 of Vale's Córrego do Feijão iron ore mine located near the town of Brumadinho in the state of Minas Gerais, Brazil, collapsed. (The dam is referred to herein as "Dam 1," and in certain quoted material as "Dam B1" or "B1.") The mud that was unleashed by the collapse killed approximately 270 people, including Vale employees and contractors and nearby residents. The collapse also caused severe environmental damage, as had the earlier dam collapse in Mariana.

14. As the truth about Vale's dams, including the collapsed Dam 1, and its dam safety, sustainability and risk management practices became known to the market, including Plaintiffs, the price of Vale's securities suffered steep declines, harming investors, including Plaintiffs.

15. As the truth was gradually revealed, the market, including Plaintiffs, learned that, according to Vale's own independent investigation report, which was issued a year after the Dam 1 collapse, "***at least since 2003***, Vale had information indicating the fragile condition of" Dam 1 and that in 2016, Defendant Poppinga had even ordered that Dam 1 not receive any more tailings deposits because of "safety concern[s]" about Dam 1.

16. Indeed, as described by *The Wall Street Journal*, Vale's own technical report about the collapse of Dam 1 "paints a picture of cavalier neglect": "Water had been allowed to build up inside the dam to such levels ***it was only a matter of time before the giant mound gave way.***"

17. Moreover, again according to Vale's own independent investigation report, when faced with studies demonstrating the "fragile" and "marginal" condition of Dam 1, "Vale's geotechnical area resisting accepting" those findings, and Vale's efforts "to remediate weaknesses and improve [the] safety" of Dam 1 were "limited and unsuccessful."

18. The false and misleading nature of Defendants' statements about the safety and stability of Vale's tailings dams, the company's commitment to safety and sustainability and the company's purportedly robust safety and risk management policies and practices are confirmed by numerous sources, including Vale's own independent investigation report about Dam 1's collapse, Vale's own technical reports about Dam 1's collapse, two Brazilian legislative reports and widespread, detailed media accounts.

19. Notably, less than a month ago, on October 28, 2021, Vale disclosed that it had received a Wells Notice from the SEC, informing the company that the SEC Staff had made a

preliminary determination to recommend that the SEC bring charges against Vale for securities laws violations related to the company's disclosures about its dam safety management and Dam 1, in particular.

20. Moreover, this Court has also issued two motion-to-dismiss decisions in the Class Action holding that, based on similar allegations to those herein, Defendants' statements described herein were adequately alleged to be intentionally false and misleading, and that when the truth about those statements was revealed, the price of Vale securities fell, causing investor losses.

21. Plaintiffs are investment funds that purchased or acquired Vale publicly traded securities—including Vale-sponsored American Depositary Shares traded on the New York Stock Exchange ("NYSE") and representing Vale common stock ("Common ADS") and Vale-sponsored American Depositary Shares traded on the NYSE and representing Vale class A preferred stock ("Preferred ADS")—during the time when, unbeknownst to Plaintiffs, Defendants had made materially false and misleading statements. As the truth was gradually disclosed and processed by the market, thereby causing the price of Vale securities to decline, Plaintiffs suffered significant investment losses.

22. Plaintiffs therefore bring this action under the federal securities laws and the common law to recover damages for the losses they suffered as a result of Defendants' materially false and misleading misstatements.

### **JURISDICTION AND VENUE**

23. The claims asserted herein arise under and pursuant to Sections 10(b), 18 and 20(a) of the Securities Exchange Act of 1934 (the "Exchange Act"), 15 U.S.C. §§ 78j(b), 78r and 78t(a), and Rule 10b-5 promulgated thereunder, 17 C.F.R. § 240.10b-5, and under state common law.



24. This Court has jurisdiction over the subject matter of this action pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa, and 28 U.S.C. § 1331, and has supplemental jurisdiction over the common law claims pursuant to 28 U.S.C. § 1367.

25. Venue is proper in this District pursuant to Section 27 of the Exchange Act and 28 U.S.C. § 1391. Many of the acts giving rise to the violations complained of herein, including the dissemination of false and misleading information, occurred in this District.

26. Indeed, Vale has contractually consented to this Court's jurisdiction over this matter. The Deposit Agreement for Vale's ADS provides that "the Company . . . agree[s] that the federal . . . courts in the City of New York shall have jurisdiction to hear and determine any suit, action or proceeding . . . that may arise out of or in connection with the Deposit Agreement and, for such purposes, . . . irrevocably submits to the non-exclusive jurisdiction of such courts."

27. Plaintiffs' Exchange Act claims are premised upon the purchase or acquisition of Vale Common ADS or Preferred ADS on the NYSE in the United States.

28. In connection with the acts, transactions and conduct alleged herein, Defendants, directly or indirectly, used the means and instrumentalities of interstate commerce, including, but not limited to, the United States mails, interstate telephone communications and the facilities of a national securities exchange and market.

## **PARTIES**

### **I. Plaintiffs**

29. Plaintiff Orbis Global Equity LE Fund (Australia Registered) is a unit trust organized under the laws of Australia. It purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures

was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

30. Plaintiff Orbis Global Equity Fund (Australia Registered) is a unit trust organized under the laws of Australia. It purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

31. Plaintiff Orbis Global Balanced Fund (Australia Registered) is a unit trust organized under the laws of Australia. It purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after February 7, 2017, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

32. Plaintiff Orbis SICAV is an investment company (Société d'Investissement à Capital Variable) organized under the laws of Luxembourg. Through its subfunds Orbis SICAV Global Balanced Fund, Orbis SICAV Global Cautious Fund and Orbis SICAV Global Equity Fund, it purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

33. Plaintiff Orbis Institutional Funds Limited is a mutual fund company organized under the laws of Bermuda. Through its subfund Orbis Institutional Global Equity Fund, it purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

34. Plaintiff Orbis Global Equity Fund Limited is a mutual fund company organized under the laws of Bermuda. It purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

35. Plaintiff Orbis Institutional Equity Fund L.P. is a limited partnership organized under the laws of the State of Delaware. It purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

36. Plaintiff Orbis OEIC is an investment fund organized under the laws of England and Wales. Through its subfunds Orbis OEIC Global Balanced Fund, Orbis OEIC Global Cautious Fund and Orbis OEIC Global Equity Fund, it purchased or acquired Vale Common ADS and Preferred ADS at artificially inflated prices on or after December 23, 2016, and held Vale Common

ADS through and after January 25, 2019, when the first of a series of partial but inadequate disclosures was issued correcting the prior false and misleading statements and as the foreseeable risks concealed by Defendants' material misstatements and omissions partially materialized.

37. At all relevant times, Orbis Investment Management Ltd. ("Orbis") acted as investment adviser or subadviser to Plaintiffs in connection with their purchases or acquisitions of Vale securities.

## **II. Defendants**

38. Defendant Vale is a Brazilian corporation with its headquarters in Rio de Janeiro, Brazil. Vale is one of the largest mining companies in the world, operating in approximately 30 countries and employing approximately 120,000 personnel. Vale is the world's largest producer of iron ore, pellets, and nickel and the largest producer of manganese in Brazil. Vale's stock is listed on the Brazilian stock exchange, but Vale is able to access the U.S. capital markets through the issuance of sponsored American Depositary Shares ("ADS" evidenced through American Depositary Receipts ("ADRs")) traded on the NYSE, which represent shares of Vale stock held by a U.S. depositary bank. In 2017, Vale converted its Preferred ADS into Common ADS. Following the conversion, Vale's Common ADS continued to be publicly traded in the United States on the NYSE under the ticker symbol "VALE."

39. Defendant Murilo Ferreira ("Ferreira") was Vale's Chief Executive Officer from May 2011 through May 2017, when the Board of Directors of Vale opted not to renew his contract. Ferreira began his professional career at Vale in 1977 as a financial and economic analyst. Ferreira has also served on the boards of various companies in Brazil and other countries. From March to November 2015, Ferreira chaired the Board of Directors of Petróleo Brasileiro S.A. (Petrobras). During the relevant period, Ferreira participated in or attended the Company's conference calls and investor presentations.

40. Defendant Fabio Schvartsman (“Schvartsman”) was Vale’s Chief Executive Officer from May 2017 through March 2019, when he stepped down at the request of Brazilian authorities, following the collapse of Dam 1. During the relevant period, Schvartsman participated in or attended the Company’s conference calls and investor presentations.

41. Defendant Luciano Siani Pires (“Siani”) has been Vale’s Executive Director of Finance and Investor Relations since August 2012. He was also head of Vale’s Business Risk Management division and chair of Vale’s Executive Risk Committee. During the relevant period, Siani participated in or attended the Company’s conference calls and investor presentations.

42. Defendant Gerd Peter Poppinga (“Poppinga”) was Vale’s Executive Director of Ferrous Minerals and Coal from July 2017 through March 2019, when he stepped down at the request of Brazilian authorities, following the collapse of Dam 1, and established a “dam management” division that reported to him. Prior to July 2017, Poppinga was Executive Director of Ferrous Minerals since 2014. During the relevant period, Poppinga participated in or attended the Company’s conference calls and investor presentations.

43. Defendant Luiz Eduardo Froes do Amaral Osorio (“Osorio”) has been Vale’s Executive Director of Sustainability and International Business since July 2017. During the relevant period, Osorio participated in or attended the Company’s conference calls and investor presentations.

## **FACTUAL ALLEGATIONS**

### **I. Vale and Its Tailings Dams**

44. Vale is the world’s largest producer of iron ore and pellets, which are raw materials used to manufacture steel. Vale’s iron mines are concentrated in Brazil.

45. Tailings are the waste product that remain after iron ore and pellets are separated from mined materials. Mining companies, including Vale, store tailings in tailings dams located near the mine site.

46. There are four different construction methods for tailings dams: (i) upstream; (ii) downstream; (iii) centerline; and (iv) drystacking. The construction method of a tailings dam is important because different methods have different levels of safety risk.

47. In the upstream construction method, new dikes are built upstream of existing dikes. Upstream dams are the least expensive tailings dam to build versus the other construction methods, but are also the riskiest. Upstream dams are extremely vulnerable to liquefaction when the tailings behind the dam are saturated with water.

48. Liquefaction is a geotechnical phenomenon whereby a seemingly solid or semi-solid saturated soil mass turns into and behaves like a liquid.

49. This liquid mixture erodes the structure of the dam and increases the potential for the dam to rupture and collapse. The collapse of the dam is typically followed by a release of the saturated tailings and water in a wave of “mud” downstream.

50. According to a 2008 study, of 145 tailings dam incidents, 76% occurred at dams constructed using the upstream method.

51. A 2021 study of 1,743 tailings facilities found that 10% of those facilities had reported a stability issue, but that figure jumped to 18.3% for active upstream dams, meaning that upstream dams are nearly twice as unstable as the average tailings facility.

52. Because of the risks posed by upstream tailings mines, they have long been banned in, among other countries, Chile, Peru and parts of Canada. (After the Mariana and Dam 1 mine collapses, Brazil also outlawed the upstream construction method.)

53. Samarco Mineração SA (“Samarco”) is a joint venture of Vale and BHP Billiton (now known as BHP).

54. On November 5, 2015, an upstream tailings dam operated by Samarco at the Fundão mine in Mariana, located in the state of Minas Gerais, Brazil, collapsed, killing 19, destroying a nearby town, and polluting the water supply of hundreds of thousands of residents.

55. The cause of the Mariana dam collapse was liquefaction.

56. Following the Mariana dam collapse, Brazil adopted enhanced dam safety requirements, including requiring twice annual dam safety inspections and the submission of a Stability Condition Statement (“DCE”) following each inspection, as well as mandating periodic dam safety reviews. The Stability Condition Statement attests to the structural integrity of the dam and must be signed by a dam inspector and the dam owner.

57. The Stability Condition Statement relies on the calculation of a factor of safety of the dam (also referred to herein as “safety factor” or “FS”). A mean factor of safety of 1 implies a 50% probability that the dam will experience failure. As discussed herein, international standards and Vale’s own internal guidelines required a safety factor of 1.3 for Dam B1 to be considered safe.

## **II. Vale’s Reporting Obligations as a Public Company**

58. As a foreign issuer that lists its securities on the NYSE, Vale has important reporting and disclosure obligations under the federal securities laws. These requirements were created by the U.S. government to restore investor confidence in the integrity of the U.S. capital markets in the wake of the Great Depression.

59. Foreign companies that sell their securities to the public in the United States are required to file with the SEC certain disclosure documents containing comprehensive information

about their business operations and their financial condition. Investors rely on the accuracy and transparency of these disclosures when determining whether to invest.

60. The following table sets forth certain filings that Vale made with SEC during the relevant period, the date that they were filed with the SEC, and how they will be referred to throughout this Complaint:

<b>Description of Filing</b>	<b>Date of Filing</b>	<b>Abbreviation</b>
Form 6-K containing Vale Day NY 2016 slide presentation	November 29, 2016	“Vale Day NY 2016 Presentation”
Form 6-K containing financial statements as of December 31, 2016	February 23, 2017	“February 2017 6-K”
Form 20-F for year ended December 31, 2016	April 11, 2017	“2016 Annual Report”
Form 6-K containing Vale presentation at Bank of America Merrill Lynch Global Metals, Mining & Steel Conference	May 16, 2017	“May 2017 Bank of America Mining Conference Presentation”
Form 6-K containing Vale’s 2016 Reference Form submitted to the Brazilian Securities Commission (CVM)	May 30, 2017	“May 2017 6-K”
Form 6-K containing financial statements as of December 31, 2017	February 27, 2018	“February 2018 6-K”
Form 20-F for year ended December 31, 2016	April 13, 2018	“2017 Annual Report”
Form 6-K containing press release about Dam 1 collapse	January 28, 2019	“January 2019 6-K”



61. Foreign companies that sell their securities to the U.S. public are required to follow the standards developed by the SEC governing what information must be disclosed in financial statements and other public filings.

62. Public companies such as Vale also are required to maintain effective internal controls. An issuer's top-ranking executives must be involving in creating and designing these controls, and also must personally certify their effectiveness.

63. The Committee of Sponsoring Organizations of the Treadway Commission's Internal Control – Integrated Framework defines internal control as “a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.” With respect to the reporting and compliance aspects of this definition, the Integrated Framework specifically states that “[w]hen internal control is determined to be effective, senior management and the board of directors have reasonable assurance [that] . . . the organization prepares reports in conformity with applicable laws, rules and regulations, and standards established by legislators, regulators, and standard setters, . . . [and that] the organization complies with applicable laws, rules and regulations.” See The Committee of Sponsoring Organizations of the Treadway Commission's Internal Control – Integrated Framework § 3 (“Requirements for Effective Internal Control”).

64. Section 404 of the Sarbanes-Oxley Act of 2002 (“SOX”) requires public companies to publish information in their annual reports concerning the scope and adequacy of their internal control structure and procedures for financial reporting, and also to assess the effectiveness of such internal controls and procedures. When management identifies a control deficiency, it cannot

claim that its internal controls are effective if the control deficiency is deemed to be a material weakness.

65. Section 302 of SOX requires a public company's chief executive officer and chief financial officer to provide certifications concerning their review of, and disclosure of information about, the company's internal controls. The executives must also certify that the accompanying SEC filing does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made not misleading. Specifically, pursuant to rules promulgated by the SEC to implement Section 302 of SOX, the CEO and CFO are required to certify in each periodic report that, among other things:

- he or she has reviewed the report;
- based on his or her knowledge, the report does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by the report;
- he or she and the other certifying officers:
  - are responsible for establishing and maintaining "disclosure controls and procedures" [i.e., controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports filed or submitted by it under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms] for the issuer;
  - have designed such disclosure controls and procedures to ensure that material information is made known to them, particularly during the period in which the periodic report is being prepared;
  - have evaluated the effectiveness of the issuer's disclosure controls and procedures as of a date within 90 days prior to the filing date of the report; and

- have presented in the report their conclusions about the effectiveness of the disclosure controls and procedures based on the required evaluation as of that date;
- he or she and the other certifying officers have disclosed to the issuer's auditors and to the audit committee of the board of directors (or persons fulfilling the equivalent function) any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal controls; and
- he or she and the other certifying officers have indicated in the report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of their evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

*Certification of Disclosure in Companies' Quarterly and Annual Reports*, Exchange Act Release 46427, § II.A (Sept. 9, 2002) (footnotes omitted).

66. The following table shows which Defendant provided these SOX certifications with Vale's SEC filings during the relevant period:

SEC Filing	CEO Certification	CFO Certification
2016 Annual Report	Ferreira	Siani
2017 Annual Report	Schvartsman	Siani

67. Even when a public company provides information to investors that is not contained in an SEC filing, that information must still be true and accurate. SEC Rule 10b-5 (17 C.F.R. § 240.10b-5) prohibits a company from making materially false or misleading statements in connection with the purchase and sale of its securities.

68. In addition to its SEC filings, Vale also published and publicly released, including on its website, an annual sustainability report:

Sustainability Report	Released
2016 Sustainability Report	April 2017
2017 Sustainability Report	April 2018

69. As explained in greater detail below, throughout the relevant period Defendants represented to investors that Vale was complying with these important public reporting obligations by, among other things, timely disclosing truthful material facts about its business. However, unbeknownst to the market, between 2016 and early 2019, Defendants made material misrepresentations in order to artificially inflate the price of Vale's publicly traded securities by improperly telling investors, including Plaintiffs, that its dams (including Dam 1) were safe, that it was committed to dam safety and sustainability, that it had robust safety and risk management processes, and that it had effective disclosure controls and procedures. As was later revealed, Defendants' statements were false and misleading when made: Defendants had known for years that certain of its tailings dams (including Dam 1) were unsafe and at critical risk of collapsing, and Defendants made little efforts to ensure the safety of at least Dam 1, and those efforts that were made were unsuccessful. Moreover, Defendants effectively circumvented Brazil's dam safety regime by using dam auditors infected with conflicts of interest, putting pressure on dam auditors to deliver stability certifications in the face of contrary evidence, permitting dam auditors to rely on erroneous safety-factor methodologies, and resisting suggestions from those auditors to improve the safety of Dam 1.

**III. Contrary to Their Numerous Public Statements, Defendants Knew for Years That Dam 1 Was Unsafe and Had a Significant Risk of Collapsing.**

70. Defendants knew for years that Dam 1 was unsafe. Not only did they conceal this, but they affirmatively misstated the safety of Dam 1.

71. Indeed, after the collapse of Dam 1, multiple media and investigatory reports were released that made clear the extent of Defendants’ knowledge—prior to Dam’s 1 collapse—about the precarious state of Dam 1’s safety and stability, as well as the unacceptable safety risks of numerous other Vale tailings dams. This information was unknown to the investing public prior to Dam 1’s collapse and the publication of these reports. These reports included: (i) a July 2019 Brazilian Senate Report; (ii) a September 2019 Minas Gerais House of Representatives Report; (iii) a December 12, 2019 report from Vale’s own technical experts, *Report of the Expert Panel on the Technical Causes of the Failure of Feijão Dam I*; and (iv) a February 20, 2020 executive summary of Vale’s own independent investigation report conducted by its Extraordinary Independent Consulting Committee for Investigation.

**A. Defendants knew that the construction and design of Dam 1 made it prone to collapsing.**

72. As Vale’s own technical expert report concluded in December 2019, Dam 1 “was composed of mostly loose, saturated, heavy, and brittle tailings that had high shear stresses within the downstream slope, resulting in a marginally stable dam (i.e., close to failure in undrained conditions)” and that “the amount of strain required to trigger strength loss could be very small, especially in the weaker tailings.”

73. Vale’s technical expert report makes clear that the risk of collapse of Dam 1 resulted from, among other factors, its construction and design—factors known to Vale. Indeed, that report reached those conclusions based on data collected in 2005, 2016 and 2018.

74. As the report explains, “the design and construction of” Dam 1 “is a contributing factor to its failure,” because “the design resulted in a dam that was steep with a lack of sufficient drainage, resulting in high water levels, both of which caused high shear stresses within the dam,” and that Dam 1 “did not contain sufficient internal drainage and therefore had a high water level

in the downstream slope,” which “resulted in a significant portion of the tailings remaining saturated . . . , a prerequisite for undrained flow liquefaction.”

75. Although concealed from public investors like Plaintiffs, these issues were known to Vale insiders well prior to the January 2019 collapse. As Vale’s own independent investigation report subsequently stated, “at least since 1995, there were already records of internal drainage issues” and “low factors of safety had already been indicated in technical reports prepared by engineering companies” in 1995, 2003, 2017 and 2018.

**B. Vale’s own independent investigation report found that safety problems with Dam 1 were discovered by Vale as early as 2003.**

76. The below issues with Dam 1 well prior to January 2019 were highlighted in Vale’s own independent investigation report that was released approximately one year after Dam 1 collapsed:

77. In 1995, when Dam 1 was still owned by Ferteco, an engineering firm raised issues about “unfavorable safety conditions especially in relation to the high phreatic [water table] surface and low factors of safety.”

78. In 2003, Vale hired two engineering firms to audit Dam 1. One of those firms reported “safety values for B1 below the minimum considered satisfactory, the existence of problems with the internal drainage system of the dam and a lack of data about its foundation.” That firm also stated that the “factor of safety values calculated for B1 would indicate an ‘extremely uncomfortable situation’ from a risk standpoint given existing downstream facilities.”

79. The other firm’s report agreed and even highlighted “the need to perform a stability analysis considering the possibility of static liquefaction.”

80. As discussed, liquefaction was the cause of Dam 1’s January 2019 collapse, and was also the cause of the earlier Samarco Fundão Dam collapse in 2015.

**C. From 2010 through 2013, Vale resists performing recommended liquefaction studies on Dam 1.**

81. Prior to 2014, the last liquefaction study was conducted in 2006, using 2005 data. Between 2010 and 2013, “the company responsible for B1’s external audit” “recommended every year” that “analysis of the potential for liquefaction of the structure” be conducted.

82. Even in the face of these repeated annual recommendations, and satellite imagery from 2011 showing problems with drainage at Dam 1 and increasing saturation, Vale did not have a liquefaction study performed until 2014.

**D. Vale finally performs a liquefaction study in 2014, but uses decade-old data.**

83. The 2014 liquefaction study “was based on the re-interpretation of the 2005 investigation . . . , not new testing.”

84. Despite being based on decade-old data, the results of the 2014 liquefaction analysis found “the susceptibility of B1’s tailings to liquefaction” and identified safety factors as low as 1.5.

85. But as Vale’s own independent investigation report explains, those results “were possibly not representative of the conditions of the dam in 2014,” because in the ensuing nine years since the 2005 data was collected, “B1 was raised twice” and thus “[i]ts geometry had changed, the dam was taller and had a greater volume of material in the tailings deposit.”

86. For that reason, “B1’s external auditor in 2015 . . . recommended that liquefaction analysis be carried out based on a new investigation . . . and collection of samples and information representative of the tailings located at the foundation of the upstream raisings.”

87. After the Mariana Dam collapse in 2015, Brazil adopted new dam-safety legislation, including auditing requirements.

**E. To avoid unfavorable results, the 2016 liquefaction study uses an unreliable methodology.**

88. In 2016, Vale hired Geoconsultoria to conduct a new liquefaction study of Dam 1. Geoconsultoria, in turn, hired Scott M. Olson as a consultant for the project. Dr. Olson, a geotechnical engineering professor at the University of Illinois, was a member of Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures.

89. Yet Olson's analyses were ignored by Geoconsultoria when it performed the audit. For example, according to Olson, certain lab tests were unreliable and should not have been used to calculate the undrained strength ratio—one of the inputs in calculating Dam 1's safety factor.

90. The liquefaction analyses performed by Geoconsultoria yielded unfavorable results for Dam 1's stability when using Olson's methodology.

91. Despite this, as Vale's own independent investigation report explains, "at the end of the Extraordinary Audit, Geoconsultoria reached supposedly satisfactory factors of safety for the drained and undrained peak conditions . . . and the stability of B1 was certified."

92. But "[i]n reaching these results, Geoconsultoria used a higher undrained strength parameter than those identified by Olson and recommended by engineering best practices."

93. The undrained strength parameter used by Geoconsultoria "was obtained using [a] questionable methodology and in contradiction to Olson's considerations given that laboratory test results that Olson considered unreliable were used."

94. As Vale's own independent investigation report bluntly concluded, "[i]f the results of the liquefaction studies conducted using Olson's methodology had been considered by Geoconsultoria, the factor of safety obtained for B1 in August 2016 would have been very close to 1, thus indicating a situation of imminent failure."



95. Making matters worse, “Geoconsultoria did not present a stability analysis that considered the residual/post-trigger undrained condition that had been recommended by Olson.” Put simply, Geoconsultoria did not test the capacity of Dam 1 to resist liquefaction once it occurred—despite knowing that the risk of liquefaction existed.

96. Although Geoconsultoria conducted more geotechnical tests of Dam 1 between the second half of 2016 and the beginning of 2017, these tests did not change the results from the 2016 tests described immediately above.

**F. 2017 stability analyses reveal unacceptably low safety factors and Dam 1’s “fragile situation.”**

97. In February 2017, Vale’s Geotechnical Risk Management Group hired Potamos and Tüv Süd to perform additional studies related to geotechnical risks of Dam 1.

98. Potamos and Tüv Süd expressed discomfort with the methodology used by Geoconsultoria in its 2016 audit and insisted on using a methodology that aligned with the recommendations of Vale’s Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures and with Dr. Olson’s observations made to Geoconsultoria in 2016.

99. Thus, these companies performed a new stability analysis—ignoring the unreliable 2016 lab tests as Dr. Olson had previously urged—that resulted in a lower undrained strength ratio than Geoconsultoria’s 2016 analysis.

100. As a result, as Vale’s own independent investigation report explains, “Potamos and Tüv Süd calculated a peak undrained safety factor of 1.06” and a “residual undrained factor of safety” of “0.39,” which “indicated B1’s fragile situation.”

101. These results were presented to Vale’s Operations Geotechnical and Corporate Geotechnical departments in the second half of 2017.

102. But Vale did not use the Potamos and Tüv Süd analyses for Dam 1's 2017 external audit, which was conducted by another company, Tractebel.

**G. Vale instructs the September 2017 Dam 1 auditor to delete references to the unfavorable stability analyses.**

103. In September 2017, Tractebel included in a draft audit report a recommendation to review Geoconsultoria's 2016 study and results. But at the request of a Vale employee in the Operations Geotechnical department, Tractebel deleted this recommendation from the final version of the audit.

**H. Vale fails in its efforts to improve Dam 1's drainage.**

104. Ahead of the June 2018 deadline for the issuance of a Stability Condition Declaration for Dam 1, Vale asked Potamos and Tüv Süd "to present alternatives for increasing the factor of safety" of Dam 1.

105. Of the options presented, Vale chose to install Deep Horizontal Drains (Drenos Horizontais Profundos; "DHPs") to try and lower the water table level of Dam 1, despite that Potamos and Tüv Süd told Vale that "such measures would not be efficient in the short term."

106. Indeed, after the Dam 1 collapse, a Potamos geotechnical engineer testified before the Minas Gerais Legislative Assembly that the maximum depth of a safe and effective DHP was 40 meters, but that Vale was proposing to install 100 meter-deep DHPs.

107. Vale, Potamos and Tüv Süd held a meeting on December 21, 2017, to discuss, among other things, ways to increase the safety factor of Dam 1. The meeting minutes state that "All actions carried out by Vale SA are intended to increase the safety factor for the undrained condition, with the goal of obtaining a minimum safety factor of 1.3 for surge resistance" and that "even if the actions taken do not take immediate effect until June 2018 in raising the safety factor

to 1.3, Tüv-Süd will consider and monitor the actions carried out by Vale SA, with a view to issuing the statement of stability condition of Dam I, scheduled for June 2018.”

108. As the Minas Gerais Report concluded, the minutes make clear that Vale “had knowledge that Dam 1 was facing serious problems relating to the Safety Factor, mainly regarding the liquefaction aspect.”

109. Vale began to install DHPs in February 2018, based on a design developed internally at Vale. The installation was halted on June 11, 2018, due to a hydraulic fracturing in part of Dam 1’s embankment during the drilling of the 15th DHP (“DHP 15”), which caused a flow of water and fine materials to seep at the external slope of Dam 1.

**I. After the drainage incident, Vale does not follow Dam 1’s Emergency Action Plan and misleads Brazilian authorities.**

110. As Vale’s own independent investigation report subsequently concluded, “[t]here were problems with Vale’s responses to the DHP 15 event, including issues that impact the Emergency Action Plan for Mining Dams (Plano de Ação de Emergência para Barragens de Mineração)” (“PAEBM”): (i) the event was “not classified according to legal requirements, a fact that led to the non-activation of PAEBM level 1 (which was necessary, considering the classification of anomalies provided for under applicable legislation)”; and (ii) the incident “was not properly reported to the National Mining Agency.”

111. Vale’s own independent investigation report recounts that an internal report produced after the DHP 15 failure by the Geotechnical Team stated that “the perception of the team was that the Company was not prepared to activate the PAEBM.”

112. Yet, as Vale’s own independent investigation report found, “[e]vidence from studies and other materials reviewed indicate that the impacts of a breach at B1 were known to Vale.” Indeed, the PAEBM and its supporting studies said that “in the event of a breach, B1’s

tailings would reach the administrative structures in approximately one minute and other studies indicated a high number of deaths, especially in the case of a failure without prior warning.”

113. Despite all of this, as the independent investigation report explains, “the adoption of concrete measures to mitigate impacts were not identified nor was the removal of the downstream administrative facilities at B1 discussed.”

114. Internally, Vale scored the DHP 15 event as a 6 on a 10-point risk scale (with 0 being the best state and 10 being a critical state). Prior to the DHP 15 event, Dam 1 had been rated a 3 on that scale. Despite the DHP 15 event and Vale’s internal 6 point rating, days later, Vale informed Brazilian authorities that Dam 1 remained at a 3 rating.

**J. After its unsuccessful drainage efforts, Vale fails to implement any measures to lower the water level of Dam 1.**

115. Making matters worse, after the DHP 15 incident, Vale did not implement any measures to lower the water table level of Dam 1 before the next rainy season, which would occur between October 2018 and March 2019, despite that Dam 1’s high water table level had been flagged by consultants since at least 1995.

116. Rather, as Vale’s own independent investigation report put it, “[t]he main safety mitigation measure adopted by Vale after the DHP 15 event was to move forward with the B1 decommissioning project, despite the technical opinion of external consultants that such a measure would not be effective to increase B1’s safety in the short term.” In fact, “[n]o provisional reinforcement and/or safety measures for B1 and/or its surrounding areas were discussed.”

117. Moreover, although there was evidence that preparations for the decommissioning could impact the stability of Dam 1, the removal of Vale administrative facilities downstream from Dam 1 was not considered.

**K. Vale tries to convince its outside dam auditors to use the flawed 2016 liquefaction study methodology.**

118. According to Vale's own independent investigation report, during that same time period, Vale employees in the Corporate Geotechnical and Operations Geotechnical departments tried to persuade Potamos and Tüv Süd to adopt the flawed 2016 Geoconsultoria methodology. That methodology, of course, had been previously rejected by Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures and by Dr. Olson.

**L. Vale's efforts to have Dam 1 (and other dams) certified based on promises of *future* improvements.**

119. As recounted in Vale's own independent investigation report, the initial version of Tüv Süd's report and internal Tüv Süd emails show that Tüv Süd had understood that it would be impossible to certify Dam 1 as stable with a peak undrained safety factor below 1.3—the minimum safety factor recommended by, among other sources, Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures.

120. As Vale's own independent investigation report states, between the initial Tüv Süd drafts and the final draft of the Stability Condition Declaration, "meetings were held and emails exchanged between Vale and Tüv Süd" and that in May 2018, "Tüv Süd sent an email to a Vale employee in the Corporate Geotechnical area requesting that certain commitments be made as a basis for signing of the DCE." These "commitments" "consisted of the execution of future measures to improve the dam's safety and did not alter the condition of the structure at the time."

121. Nor were such future "commitments" in exchange for a current stability certification limited to Dam 1. An internal Tüv Süd email from May 13, 2018 discussed that VOGBR, another dam certification company, was going to certify the Foquilha III dam based on promises by Vale of future improvements.

**M. Contrary to international mining standards, Tüv Süd, Dam 1's auditor, lacked independence from Vale.**

122. International industry benchmarks on tailings dam management stress that a dam safety auditor be able to demonstrate independence from the client.

123. For example, the standards of the Mining Association of Canada suggest that external audits be conducted by entities whose “independence can be demonstrated by the freedom from responsibility for the activity being audited or freedom from bias or conflict of interest.”

124. The guidelines of the World Bank's International Finance Corporation, which invests in infrastructure projects, state that a dam's owner should hire auditors “separate from those responsible for the design and construction” of the dam.

125. Yet during the first half of 2018, as Vale's own independent investigation report found, although unbeknownst to the investing public at the time, “[m]essages exchanged between Tüv Süd employees at the time suggest that the perception of Tüv Süd was that it was possible that there may been pressure on the part of Vale, including specific mention to a consulting contract that was being negotiated between Vale and Tüv Süd . . . .”

126. On February 22, 2020, *The Wall Street Journal*, after its own investigation, put it more plainly: “Tüv Süd inspectors knew of dangerous conditions at the dam but certified it as safe in part because they feared losing Vale's business, which involved scores of other contracts,” including new projects at Dam 1 and safety audits for 30 other Vale dams in Brazil.

127. For example, an internal Tüv Süd email from May 13, 2018 implied that there was pressure from Vale: “Vale will throw us against the wall and ask: and if we don't pass, will they sign or not?” Another internal Tüv Süd email from May 15, 2018 confirms the pressure from Vale: “How is the credibility of the results? Whenever it does not pass, Vale will involve another company, until it has a beneficial result . . . .”

128. Internal Tüv Süd emails from May 2018 also suggest that a German Tüv Süd executive, Chris Meier, who traveled to Brazil monthly, met with Vale engineers about Dam 1 on May 17, 2018.

129. Vale's independent investigation report further explained that "in addition to being hired to perform" dam safety certifications "and safety audits," Tüv Süd "was also hired in 2018 to provide other services, including the B1 As Is design and the decommissioning design. The As Is project contract is dated 5/15/2018, the day following a meeting during the course of which pressure was apparently exerted by Vale for B1's DCE to be issued. Soon thereafter, Tüv Süd ended up issuing the DCE, even with a low factor of safety, using a minimum factor of safety criterion that was at the least inappropriate from a technical standpoint."

130. Moreover, as confirmed by Vale's independent investigation report, there was a financial disparity between dam auditing contracts and dam consulting contracts: consulting contracts were more financially lucrative and thus could "lead companies to compromise their judgment in audits with the aim of maintaining a good relationship with Vale and entering into consulting agreements."

131. Indeed, the entanglement between Tüv Süd and Vale was not new. Tüv Süd acquired Brazil's Bureau de Projetos e Consultoria in 2013. Shortly before that transaction, Bureau de Projetos e Consultoria worked with Vale on two consulting projects concerning decommissioned mines, including tailings ponds.

132. Similarly, on February 1, 2019, *The Wall Street Journal* reported that an engineer who worked at Tüv Süd from 2014 through 2016 performed consulting and planning work for Vale in decommissioning projects, according to his public LinkedIn profile.

133. In addition, Tüv Süd inspectors would send a first draft of their conclusions to Vale employees, who would add their own notes, which typically minimized Tüv Süd's concerns.

**N. Dam 1 is certified in June 2018, based on flawed analysis and with an unacceptably low safety factor.**

134. Tüv Süd completed Dam 1's Stability Condition Declaration in June 2018 with a peak undrained factor of safety of 1.09. Although unknown to the investing public at the time, Dam 1 was certified despite (i) that in November 2017, Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures had recommended a minimum peak undrained safety factor of 1.3; (ii) the minimum safety factor of 1.05 used by Tüv Süd for Dam 1 was inconsistent with other Stability Condition Declarations prepared by Tüv Süd for other Vale dams at the same time; and (iii) the 1.05 minimum safety factor used by Tüv Süd was based on a flawed analysis of a scientific journal article, as found by Vale's own independent investigation report.

135. The co-author of the scientific journal article that Tüv Süd wrongly relied on in using a 1.05 minimum safety factor wrote to *The Wall Street Journal* in December 2019: "I am puzzled by how the content of the . . . study could be misconstrued as to show that such a low Factor of Safety (FS) *would ever be acceptable for dam design under any conditions.*"

136. The Minas Gerais Report concluded that by omitting information from the June 2018 Stability Condition that was contained in internal analyses produced by Potamos and Tüv Süd, it was "evident" that Vale and Tüv Süd were "aware of problems with the B1 Safety Factor, and that the two companies acted to hide from" Brazilian regulators "the real situation of the dam."



**O. Vale replaces Tractebel with Tüv Süd for the September 2018 Dam audit to ensure certification.**

137. After Tüv Süd issued the June 2018 Stability Condition Declaration for Dam 1, Tüv Süd replaced Tractebel to conduct Dam 1's September 2018 external audit because of, as Vale's independent investigation report put it, a "divergence in criteria" between the two companies.

138. As the Brazilian Senate Report explains, the "divergence in criteria" was "clear: the criteria adopted by Tractebel Engineering would lead to the conclusion that the dam was unsafe and . . . Vale wanted the audit to prepare a report in the opposite direction."

**P. Dam 1 is certified in September 2018, based on flawed analysis and with an unacceptably low safety factor.**

139. Tüv Süd subsequently certified the stability of Dam 1 on September 26, 2018 based on the calculated safety factor of 1.09 from the June 2018 Stability Condition Declaration. Although unknown to the investing public at the time, again, Tüv Süd used a minimum safety factor of 1.05 despite (i) that in November 2017, Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures had recommended a minimum peak undrained safety factor of 1.3; (ii) the minimum safety factor of 1.05 used by Tüv Süd for Dam 1 was inconsistent with other Stability Condition Declarations prepared by Tüv Süd for other Vale dams at the same time; and (iii) the 1.05 minimum safety factor used by Tüv Süd was based on a flawed analysis of a scientific journal article, as found by Vale's own independent investigation report.

140. Notably, less than one week before Tüv Süd certified the stability of Dam 1, on September 21, 2018, Tüv Süd signed a contract with Vale to work on the decommissioning of Dam 1.

141. One of the Tüv Süd employees who signed the September 2018 audit report was Makoto Namba, who was subsequently arrested by Brazilian authorities in connection with Dam

1's collapse. Despite supposedly acting as an independent auditor, in August 2018, Namba had co-authored a paper on tailings dams with, among others, a Vale geotechnical risk manager.

**Q. From November 2018 through January 2019, Dam 1 shows signs of instability, which Vale ignores.**

142. Although unknown to public investors at the time, the Brazilian Senate Report, issued in July 2019, states that anomalous radar readings were identified at Dam 1 in November 2018, which showed increasing deformation.

143. According to Vale's independent investigation report, between December 2018 and January 2019, "evidence indicates issues with B1's drainage system structures such as the presence of obstructed or eroded surface channels for water flow and problems in B1's reservoir water pumping system."

144. In January 2019, the piezometers at Dam 1 were indicating inconsistent readings and five of the piezometers were not operational. In response, Vale did not conduct a physical inspection of Dam 1.

145. In January 2019—*a few days before Dam 1 collapsed*—Tüv Süd submitted a stability analysis for Dam 1 with an increased safety factor of 1.13. As Vale's own investigations found, (i) "there was no clear justification for the increase" in the safety factor in Tüv Süd's analysis; and (ii) the Vale-suggested reason that a decrease in the water table level led to the increased safety factor had no supporting technical evidence.

**IV. Additional Facts Showing Falsity and Defendants' Scienter**

**A. Defendant Poppinga knew that Dam 1 was unsafe as early as July 2016.**

146. On July 7, 2016, Defendant Poppinga, then-Executive Director of Iron Ore, emailed José Flávio Gouvela (then-Director of South Iron Ore Operations, Midwest and Manganese) and Silmar Silva (then-Director, Planning and Development for the Iron Ore Division), with a copy to

Alexandre Campanha (then-Technical Director of Iron Ore), Lucio Cavalli (then-Executive Manager, Strategic Planning and Business Development for the Iron Ore Division) and Paulo Bandeira (then-Executive Manager, Geology and Long Term Planning), stating: “As we discussed and having learned today of the doubt that arose related to B1 of the Feijão mine, we will immediately shut down production activities at this dam until we complete all of the complementary tests and calculations that are underway. I also request that you evaluate reinforcement measures that can be carried out preventively.”

147. Vale’s own independent investigation report subsequently concluded that “the decision to cease tailings disposal at B1 may have been *based on concerns with B1’s safety*.”

148. As Vale’s independent investigation report explains, “evidence suggests that the decision to shut down tailings disposal activities at B1 in July 2016 had been the result of a conversation with Paulo Abrão, a partner at Geoconsultoria, the company that conducted that year’s liquefaction studies and the B1’s Extraordinary Audit” and that “the evidence shows that [Geoconsultoria] went on a technical visit at the dam and attended meetings with Vale personnel in the Corporate Geotechnical area in the weeks preceding Peter Poppinga’s email.”

149. Crucially, after Dam 1 collapsed, Poppinga claimed that his July 7, 2016 email resulted not from a concern about the safety of Dam 1, but from two alternative reasons. But, after examining the evidence, Vale’s own independent investigation report rejected both of these supposed alternative bases for Poppinga’s decision to shut down tailings disposal at Dam 1.

150. Moreover, the independent investigation report concluded that Poppinga had possessed an internal audit report on Dam 1 since at least May 31, 2016, and had even emailed a copy of the audit report to then-CEO defendant Ferreira on June 20, 2016.

**B. Vale's internal risk analysis identified Dam 1 (as well as numerous other dams) as having unacceptable failure risk.**

151. According to the Brazilian Senate Report, in December 2015, a few weeks after the dam collapse in Mariana, Vale's Geotechnical Risk Department prepared an internal presentation entitled "Establishing the context and identification of risk events in dams," which included discussion that the minimum acceptable level of dam risk is  $1 \times 10^{-4}$  per year.

152. According to the Minas Gerais Report, in February 2017, Vale contracted with Tüv Süd to prepare a report on the geotechnical risks of Dam 1. Vale established the acceptable probability of dam failure at less than  $1 \times 10^{-4}$ . The Tüv Süd report concluded that the probability of failure of Dam 1 was  $3 \times 10^{-4}$ —that is, three times greater than Vale's stated acceptable risk tolerance.

153. On November 15, 2017, Felipe Rocha of Vale's Geotechnical Group presented a slide deck to Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures entitled "Tolerable Risk Criteria Adopted at Vale – Results – How safe is safe enough?"

154. The presentation contains slides demonstrating that when evaluated according to multiple risk metrics, numerous Vale dams—including Dam 1 and the Sol Superior dam at the Gongo Soco mine—were unacceptably risky and unsafe.

155. The presentation cites three international criteria for risk tolerance: (i) from the Canadian Dam Association: "The maximum level of individual risk should generally be less than  $10^{-4}$ /year"; (ii) from the Australian National Committee on Large Dams: "For existing dams, an individual risk to the person or group, which is most at risk, that is higher than  $10^{-4}$  per annum is unacceptable, except in exceptional circumstances; and (iii) from the U.S. Army Corps of Engineers: "For existing dams, the individual risk to the identifiable person or group by location,

that is most at risk, should be less than a limit value of 1 in 10,000 per year, except in exceptional circumstances.”

156. The presentation stated that Vale “will start defining tolerability as the maximum level of individual risk should be less than  $10^{-4}$ /year.”

157. The presentation also stated that “*All risks with probabilities higher than  $10^{-4}$ /year are now included in VALE’S Business Risk Matrix and presented to the board of directors, CEO and Administrative Council.*”

158. In multiple risk analyses contained in the presentation, Dam 1 had a risk probability of  $1 \times 10^{-4}$ —in other words, an unacceptably high probability of risk.

159. With respect to liquefaction risk specifically—which eventually caused the collapse of Dam 1—the risk probability of Dam 1 was plotted on a graph as  $1 \times 10^{-4}$ —an unacceptably high probability of risk of liquefaction. Two other dams, Pera and Forquilha III, also had unacceptably high probabilities of liquefaction risk.

160. With respect to destabilization risk specifically, the risk probability of the dam at the Gongo Soco mine was plotted on a graph as greater than  $1 \times 10^{-4}$ —an unacceptably high probability of destabilization risk. Two other dams also had unacceptably high probabilities of destabilization risk.

161. The presentation contained two slides entitled “Tolerability Curve – First Stage – Reaching Maturity.” On these slides, Dam 1 is shown with a risk probability of  $1 \times 10^{-4}$ —unacceptably high. In red, the slide notes that those dams with risk probabilities of  $1 \times 10^{-4}$  or greater are “Unacceptable except in extraordinary circumstances” and “Must be sen[t] to Corporate Business Risk Management Matrix.” Six dams—including the dam at the Gongo Soco mine—in addition to Dam 1 are also located in the unacceptably high risk portion of these charts.

162. The presentation also contains a number of slides entitled “Tolerability Curve – Second Stage.” On these slides, the graphs appear below the following statement: “To be defined. Difficult to apply in the short term.” Dam 1 has an unacceptably high risk probability on each of these graphs as well. When evaluated in terms of loss of life, 10 dams (including Dam 1 and the dam at the Gongo Soco mine) are shown as unacceptably risky, “Without Sirens,” and 6 dams (including Dam 1) are shown as unacceptably risky, “With Sirens.”

163. Yet despite Rocha’s presentation on November 15, 2017, a Vale Risk Manager testified before the Brazilian Senate after the Dam 1 collapse that “the reference that Mr. Felipe Rocha made . . . was showing international reference, which had not yet been adopted by Vale. Vale had not yet defined what the graph would be. . . . This tolerance curve could only be defined at the executive level of the company.”

**C. Internal Vale discussion about the dire state of Dam 1 from June 2018 forward.**

164. On June 15, 2018, Marilene Lopes, a Geotechnical Risk Manager, emailed Alexandre Campanha, Geotechnical Executive Manager. Campanha reported to Lúcio Cavalli, who, in turn, reported to Defendant Poppinga. Lopes stated that although all dams had received stability declarations, “full attention” was warranted to ensure safety to a recommendation for Dam 1: “lower the water table in the structure and implement the effective decommissioning works (controlled mining) and/or reinforce the structure.”

165. On June 18, 2018, Campanha forwarded Lopes’ email to Cavalli and noted that he would share Lopes’ email with “Peter,” referring presumably to Defendant Poppinga. That same day, Cavalli forwarded the email to Silmar Silva, Iron Ore Southeastern and South System Director. Like Cavalli, Silva reported directly to Defendant Poppinga.

166. Brazilian police reportedly seized printouts from Campanha of a presentation from a June 18, 2018 meeting of Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures. The presentation, in an analysis entitled "Structures with higher probability than  $10^{-4}$ ," states "Dam I: internal erosion due to saturation zones located in the massif, absence of internal drainage system in the initial and first dike raises. Use of sinterfeed in some raises and the non-existence of granulometry records of draining materials. In addition, the structure has a history of high piezometric level. Probability:  $2 \times 10^{-4}$ ."

167. On another part of the presentation, entitled "As Is / Seismic Loading / GRG," Campanha's printouts contained handwritten notes as follows: "considered all saturated tailings as susceptible to liquefaction," "NBR 13028 does not define FS min for liquefaction; *we define  $FS \geq 1.3$* ," "see audit and RPSB recommendations" and "*make good planning for B1. be careful.*"

168. On July 10, 2018, Rocha emailed, among others, Campanha. Rocha's email explained that Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures had recommended a minimum safety factor of 1.3 for undrained stability analysis. Rocha stated in the email that Campanha recommended that Vale adopt this guideline.

169. Brazilian police reportedly seized a notebook from Campanha containing handwritten notes about an October 16, 2018 meeting about Dam 1. Those notes include remarks about "fluffy and saturated material," "implantation wells" and "construction reinforcement." They also include the notations "FS = 1.20 with execution wells" and "FS = 1.33, with wells and berms."

170. On October 18, 2018, Lopes emailed, among others, Campanha and Cavalli, attaching a message from Vale's Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures stating, in relevant part, that "Dam I (Feijão) requires further

investigation and monitoring of field to identify and design more efficient complementary measures, such as berms and tailings mining, if necessary, in order to reduce the current risk.”

171. After Dam 1’s collapse, Campanha testified to the Brazilian Federal Police that Cavalli and Silva, both of whom reported directly to Defendant Poppinga, knew of the assessment of risk and probability of failure of Dam 1, as well as all the other dams in the south-southeast corridor, based on presentations from Geotechnical Risk Management and Vale’s Independent Panel of Experts for Safety and Risk Management of Geotechnical Structures.

172. As set forth above, although unbeknownst to outside investors, the risk of liquefaction of Dam 1 was well known to Vale since at *least 2003*. Vale was also aware that liquefaction could be caused by a trigger event, such as fast loadings, earthquakes, or induced vibrations from equipment traffic or detonations. In its June and September 2018 Dam 1 inspection reports, Tüv Süd recommended that detonations be prohibited near Dam 1. Yet, Cristina Malheiros, a Vale Geotechnical Management employee, testified before the Brazilian Senate after the Dam 1 collapse that she was not aware of any restrictions or guidelines imposed by Vale as to where blasting could occur around Dam 1, and detonations within the dam pit were not prohibited. Several other Vale employees testified before the Legislative Assembly of the State of Minas Gerais after the Dam 1 collapse that blasting was common around Dam 1 before it collapsed.

#### **V. Dam 1 Bursts and the Price of Vale Securities Plummet**

173. Dam 1 collapsed on January 25, 2019 at 12:28 p.m. local time (10:28 a.m. New York time). Vale Common ADS were trading on the NYSE at an intraday price of \$15.37 per share immediately before Dam 1 ruptured. The Brazilian stock market was closed for trading that day in observance of the São Paulo City Anniversary holiday. Thus, the underlying Vale common shares that the Vale Common ADS represented were not trading on January 25, 2019.



174. News of the Dam 1 collapse, through media reports and Vale's own confirmation, was disclosed during NYSE market hours on January 25, 2019. Vale Common ADS closed on that day at \$13.66 per share, a decline of \$1.20 per share, or over 8%, from the previous closing price of \$14.86 on January 24, 2019.

175. On the next trading day, January 28, 2019, Vale Common ADS opened at \$11.65 per share and closed at \$11.20 per share, a decline of \$3.68 from the January 24, 2019 closing price prior to Dam 1's collapse, and an 18% decline from the closing price on January 25, 2019.

176. On February 4, 2019, Bloomberg reported that Vale was "temporarily halting some operations at its Brucutu mine . . . in compliance with a Brazilian court order issued to help improve safety" after Dam 1 collapsed.

177. On February 4, 2019, Vale Common ADS closed at \$12.15 per share, a decline of \$0.42, or 3.4%, from the \$12.57 closing price on February 1, 2019.

178. On February 6, 2019, articles published by *The Wall Street Journal* and *The Guardian* reported that Vale knew of the poor conditions of Dam 1 and its risk of collapsing. In addition, Vale's licenses for two other Brazilian mines were cancelled by Brazilian regulators.

179. On February 6, 2019, Vale Common ADS closed at \$11.36 per share, a decline of \$0.75, or over 6%, from the \$12.11 closing price on February 5, 2019.

180. On May 16, 2019, Vale informed Brazilian prosecutors that the Gongo Soco dam was at risk of collapsing. In response, prosecutors made a public recommendation that Vale inform the potentially affected population of the risks they would face if the Gongo Soco dam did, in fact, collapse.

181. On May 16, 2019, Vale Common ADS closed at \$11.36 per share, a decline of \$0.49, or over 4%, from the \$12.00 closing price on May 15, 2019.

182. On July 2, 2019, during NYSE market hours, the Brazilian Senate released its investigation report about the Dam 1 collapse. This report, which is referred to and discussed herein, detailed Vale's lax dam safety efforts, its prior knowledge of the acute risks that Dam 1 could collapse and other information about Vale's approach to safety and compliance not previously known publicly.

183. On July 2, 2019, Vale Common ADS closed at \$13.29 per share, a decline of \$0.64, or over 4.5%, from the \$13.93 closing price on July 1, 2019.

184. On January 21, 2020, during NYSE market hours, Brazilian prosecutors announced criminal charges against defendant Schvartsman and 15 other individuals related to Dam 1's collapse. Schvartsman was charged with intentional homicide.

185. On January 21, 2020, Vale Common ADS closed at \$13.25 per share, a decline of \$0.38, or nearly 3%, from the \$13.63 closing price on January 17, 2021.

186. On February 20, 2020, after NYSE market hours, Vale released the executive summary of its own independent investigation into the Dam 1 collapse. This summary, which is quoted and discussed extensively herein, revealed further details about Vale's lax dam safety efforts, its prior knowledge of the acute risks that Dam 1 could collapse and other information about Vale's approach to safety and compliance not previously known publicly.

187. On February 21, 2020, Vale Common ADS closed at \$11.42 per share, a decline of \$0.43, or over 3.5%, from the \$11.85 closing price on February 20, 2020. The next trading day, February 24, 2020, Vale ADS declined by an additional \$0.86, or over 7.5%, to close at \$10.56.

## **VI. The Findings of Vale's Independent Investigation Report**

188. Following the collapse of Dam 1, Vale's Board of Directors created the Extraordinary Independent Consulting Committee for Investigation ("CIAEA"), which is also referred to throughout as Vale's independent investigation.

189. On or around February 20, 2020, Vale publicly released an executive summary of the CIAEA Independent Investigation Report. Vale has not to date released the full CIAEA Independent Investigation Report.

190. The CIAEA Independent Investigation Report Executive Summary includes the following conclusions:

191. The failure of Dam 1 *“occurred due to structural instability with liquefaction.”* The most relevant technical factors were: “(i) inadequate internal drainage and high phreatic surface; (ii) reaching the peak undrained strength due to internal creep and loss of suction in the material above the phreatic surface; (iii) a dam structure not designed to contain liquefied material; and (iv) *inadequate consideration of the stability issues identified over the course of B1’s existence.*”

192. *“At least since 2003, Vale had information indicating the fragile condition of B1,* in addition to information prior to the acquisition of Ferteco. This information became especially relevant following the failure of Samarco’s Fundão Dam in November 2015.”

193. “In 2016, studies based on field tests performed at B1 indicated that the dam was in a fragile condition. Studies performed in 2017 also indicated a condition of only marginal stability, *but Vale’s geotechnical area resisted accepting the 2017 results.*”

194. “Evidence obtained by the investigation suggests that the decision to cease disposal of tailings at B1 in July 2016 was a decision of the then-Executive Director of Iron Ore, possibly due to a safety concern related to B1.”

195. *“The actions taken to remediate weaknesses and improve safety were limited and unsuccessful* (DHPs—which were stopped following the DHP 15 event) or, if they had been implemented (decommissioning of the dam with remining of the tailings), they would not have

been effective in the short term to elevate the stability of B1 to satisfactory conditions. In addition, it was known that in the event of dam failure, Vale's capacity to respond was limited and the impacts would be significant (especially on the administrative facilities downstream of B1) and with minimal reaction time."

196. "Despite knowledge of B1's fragilities and the impact of its potential failure, no evidence was identified of studies and/or measures for removal of the administrative facilities downstream of B1."

197. "[E]xternal dam auditors . . . were not able to act truly independently, as they were hired and their contracts were managed by the same area of the Iron Ore Division, whose focus was primarily on meeting regulatory requirements (e.g., obtaining DCEs). Furthermore, these companies were engaged to provide other services, creating potential conflicts of interest and potential for impairment of the effectiveness and impartiality of the outcome of audits."

## **VII. The Brazilian Senate Report**

198. The Brazilian Senate issued a 400-page report on Dam 1's collapse in July 2019, based on an extensive review of documents and testimony from witnesses. In addition to making factual findings, the Senate Report recommended the indictment of Vale and numerous of its executives, including Defendants Schvartsman and Poppinga.

199. "The first and most important conclusion" of the Senate Report was that the collapse of Dam 1 was not an "accident." Although the collapse was caused by multiple factors, the Senate Report found that "[a]t the root of them all is the mantra of cost reduction, applied to a dam that no longer contributes to production and became just an item on some expense sheet."

200. The Senate Report concluded that its investigation revealed "[a] series of oversights and negligences," but that it was clear that "Vale's management and board of directors knew about the risks and decided to take them."

201. The Senate Report made, and focused on, four specific factual findings:

*1. Dam I was built and upgraded with design deficiencies, of implementation and documentation, especially in relation to its drainage system. After 17 years of its acquisition by Vale, many of the problems had not been resolved.*

*2. In the span of a year before the tragedy, the dam gave several signs that there were serious risks, which were not correctly addressed.*

*3. The security reports issued contravened the recommendations of the panel of PIESEM experts and internationally accepted standards. The production, analysis and review of the reports suffered improper interference, to ensure the achievement of the legal requirement of Condition of Stability Statements (DCE).*

*4. Vale's management and senior management, within their competences and attributions, was aware of the risks of Dam I and the measures necessary to increase its security.*

#### **VIII. The Report of the Legislative Assembly of the State of Minas Gerais**

202. The state of Minas Gerais, where Dam 1 was located, issued its own report into Dam 1's collapse on September 12, 2019.

203. The Minas Gerais Report concluded that the following, among other factors, "contributed directly" to the collapse of Dam 1:

204. "Vale SA's knowledge that B1 operated with a much lower safety factor than internationally recommended and followed by it in its other dams."

205. "[T]he issuance of two stability condition statements, by the company Tüv Süd, in June and in September 2018, when the very low safety factor of B1 indicated real possibility of liquefaction occurring."

206. "[T]he underreporting to the ANM, by Vale SA, of the hydraulic fracturing episode with spillage of mud and pressurized water, which occurred on 6/11/2018, during an attempt to installation of the 15th Deep Horizontal Drain – DHP."

207. “[T]he non-implementation, by Vale SA, of another method of lowering the high level of the dam’s water table after the failure of the installation of DHPs at its bottom . . . .”

208. “[T]he disregard, by Vale SA, of the information provided by the automated piezometers and interferometric radar.”

209. In addition, the Minas Gerais Report concluded that Vale had “opportunities to prevent the eventual” collapse of the Dam 1, including:

210. “[F]ailure to notify the ANM of the actual state of the dam in the June and September audits 2018, which would entail the interdiction of the mine’s administrative area.”

211. “[T]he lack of action regarding the information contained in the structure’s PAEBM, which explained the risk of maintaining, just downstream of the dam, structures with the presence of constant of people, who would have no chance of surviving an abrupt breakup of B1.”

212. “The lack of action regarding the results of the Monetized Risk Calculation, which studying a hypothetical dam break and financially valuing their consequences, including in people’s lives.”

**DEFENDANTS' FALSE AND MISLEADING STATEMENTS AND OMISSIONS**

**I. Defendants' False and Misleading Statements About the Safety of Vale's Tailings Dams.**

213. In a section explaining environmental regulatory matters in Brazil, Vale's 2016 Annual Report, which was signed by Defendants Ferreira and Siani, stated that Vale had "conducted extraordinary audits on the stability conditions of our upstream dams, and no anomalies were identified."

214. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because Vale knew that Dam 1 (and other Vale tailings dams) had a high probability of failure and that at least Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

215. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, this statement was "simply false" because it "signaled to investors that Vale's upstream dams were assessed to be in good shape, while omitting that Defendant Poppinga ordered Dam 1 shut down due to 'doubt that arose' and Geoconsultoria raised concerns about Dam 1's stability in two liquefaction analyses."

216. Vale's May 2017 6-K also stated that "Vale carried out extraordinary audits on the stability conditions of its upstream dams and no anomalies were identified."

217. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because Vale knew that Dam 1 (and other Vale tailings dams) had a high probability of failure and that at least Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

218. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, this statement was "simply false" because it "signaled to investors that Vale's

upstream dams were assessed to be in good shape, while omitting that Defendant Poppinga ordered Dam 1 shut down due to ‘doubt that arose’ and Geoconsultoria raised concerns about Dam 1’s stability in two liquefaction analyses.”

219. Vale’s 2017 Sustainability Report further stated that “Vale maintains the management of its dams in permanent alignment and updating with the good and strictest international practices, standards of which exceed the legal requirements” and “appl[ies] best practices pertaining to dam safety management.”

220. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because Vale knew from numerous studies and analyses that the safety factor for Dam 1, when calculated in conformity with best practices, was less than the recommended safety factor of 1.3 and that Vale and its auditors and consultants did not follow best or internationally recommended practices in evaluating the safety of Dam 1 and other Vale tailings dams.

221. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements were false and misleading because “multiple third parties indicated to Vale that Dam 1’s factor of safety fell below the internationally recommended standard of 1.3.”

222. Vale’s 2017 Sustainability Report stated that “all the structures in the Ferrous area,” which included Dam 1, “are completely normal.”

223. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because Vale knew that Dam 1 (and other Vale tailings dams) had a high probability of failure and that at least Dam 1 had been certified as safe in violation of



Vale's own internal standards and through the use of erroneous methodologies, and thus was in no way "completely normal."

224. Indeed, in denying Defendants' motion to dismiss the Class Action complaint, the Court rejected "Vale's baseless contention that" this representation was "obviously immaterial."

225. In an April 10, 2018 article in Valor Econômico, Vale's then-CEO, Defendant Schvartsman, described the state of Vale's dams as "impeccable" and "impressive."

226. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because Schvartsman knew, or was reckless in not knowing, that multiple Vale dams, including Dam 1, had an unacceptably high failure risk.

227. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements were false and misleading because "a November 2017 risk matrix, which was or should have been shown to [Schvartsman], documented several Vale dams with an unacceptably high risk of failure."

## **II. Defendants' False and Misleading Statements About Vale's Supposedly Independent and Reliable Dam Audits.**

228. The May 2017 6-K stated that "[w]ith regard to risk management, tailings dams are highly relevant, being subjected to periodic safety audits and also to operating and monitoring procedures to assess geotechnical stability."

229. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because, having chosen to speak about the safety auditing of Vale's tailings dams, Vale omitted to disclose that at least one of those dams (Dam 1) had a high probability of failure and that the dam had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

230. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements represented "that Vale's dams were deemed safe and subject to reliable third-party audits," but "Vale's omissions of alleged facts suggesting that there were known issues with dams and that DCEs were unduly influenced and certified for dams with insufficient factors of safety obviously paint[ed] an incomplete and misleading picture about the stability of Vale dams."

231. Vale's 2017 Sustainability Report stated that "external auditors recognize Vale as a model for [dam] risk management in the global industry" and that "[i]n addition to applying best practices pertaining to dam safety, Vale submits its structures to audits conducted by specialized external consultants, and rigorously complies strictly with applicable legislation."

232. The 2017 Sustainability Report also stated, with respect to Vale's Brazilian iron ore dams, such as Dam B1, that at the end of 2017, "the area ended another cycle of external dams auditing, in which 100% of the audited structures were certified to be in stable condition, physically and hydraulically."

233. The 2017 Sustainability Report further recounted that "[i]n 2017, external audits were carried out on 107 structures in the Ferrous area, located in Brazil" and that "[a]ll of them had their physical and hydraulic stability certified, and were issued Statements of Stability Condition (DCE, acronym in Portuguese) by the responsible auditors."

234. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because, having chosen to speak about the safety auditing of Vale's tailings dams, Vale omitted to disclose that at least one of those dams (Dam 1) had a high probability of failure and that the dam had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

235. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements represented “that Vale’s dams were deemed safe and subject to reliable third-party audits,” but “Vale’s omissions of alleged facts suggesting that there were known issues with dams and that DCEs were unduly influenced and certified for dams with insufficient factors of safety obviously paint[ed] an incomplete and misleading picture about the stability of Vale dams.”

236. The presentation slide deck for Vale’s ESG webinar, held on December 11, 2018, stated that “[a]ll of Vale’s iron ore dams are safe and operating within normal limits,” that “100% of Vale’s iron ore dams have their Stability Dam Declaration issued by the External Auditors,” and that “[i]n 2018, all Vale’s iron ore tailings dams were audited.”

237. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because, having chosen to speak about the safety auditing of Vale’s iron ore tailings dams, Vale omitted to disclose that at least one of those dams (Dam 1) had a high probability of failure and that the dam had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies.

238. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements represented “that Vale’s dams were deemed safe and subject to reliable third-party audits,” but “Vale’s omissions of alleged facts suggesting that there were known issues with dams and that DCEs were unduly influenced and certified for dams with insufficient factors of safety obviously paint[ed] an incomplete and misleading picture about the stability of Vale dams.”

239. Vale’s January 2019 6-K—filed after Dam B1 collapsed—stated that Dam B1 “had Stability Condition Statements issued by TUV SUD do Brasil . . . on 6/13/18 and 9/26/18, related

to the Periodic Safety Review of Dams and Regular Dam Safety Inspection processes, respectively, as determined by the DNPM Decree 70.389/2017,” that the dam “had a Safety Factor in accordance with the world’s best practices and above the reference of the Brazilian Standard” and that “[b]oth of the . . . stability declarations attest to the physical and hydraulic safety of the dam.”

240. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because, having chosen to speak about the safety auditing of Dam 1, Vale omitted to disclose that the Dam had a high probability of failure and that the Dam had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies.

241. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements represented “that Vale’s dams were deemed safe and subject to reliable third-party audits,” but “Vale’s omissions of alleged facts suggesting that there were known issues with dams and that DCEs were unduly influenced and certified for dams with insufficient factors of safety obviously paint[ed] an incomplete and misleading picture about the stability of Vale dams.”

### **III. Defendants’ False and Misleading Statements About Vale’s Dam Safety Management**

242. Vale’s 2016 Sustainability Report, in a section titled “Environmental Responsibility,” and the subheading “Dam Management,” stated that:

Under the process of continuous improvement, the Emergency Response Plans for Dams (PAEBMs, in portuguese), for Vale’s iron ore dams, were revisited in 2016, followed by various discussions with communities located in the vicinity of the dams, with state and municipal Civil Defense, and with regulatory agencies.

Initially, Vale updated the PAEBMs of their 50 dams classified as High Potential Associated Damage (DPA) (DNPM Ordinance No. 416/2012), focusing on the processes of emergency communication and on the study of scenarios including flood zones. Continuing the process of continuous improvement and operationalization and

implementation of the emergency management of dams, the Vale has been conducting activities with communities located in the Self-rescue Zone (ZAS) and conducting a process aiming to implement a mass communication systems, also in the ZAS, downstream of each one of its structures.

Regarding governance, in 2016, a unified database was set up to manage the portfolio of Vale's iron ore dams. Named Geotechnical Risk Management (GRG, in portuguese), the system allows for the registration of any structure, documentation, projects, studies, inspection files, internal and external audit reports, and technical information, aiming to ensure that the Dam Safety Plan is up to date.

A specific module of the system was also developed to generate data on iron ore dams that will constitute the Annual Mining Report (RAL), available in 2017. Thus, the GRG aims to continually improve reliability, speed, and visibility in access to information related to the structures and the management of iron ore dams.

243. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false and misleading because, having chosen to speak about the safety of Vale's iron ore dams, Vale omitted to disclose that at least one of those dams (Dam 1) had a high probability of failure and that the dam had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

244. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, "statements in the 2016 Sustainability Report emphasizing updates to Action Plans and a Geotechnical Risk Management's database to manage dam inspections, audits, and technical information . . . may be misleading where Dam 1's Action Plan was allegedly not followed and that far from managing risks, the Geotechnical Risk Management Department acted to obtain DCEs for unstable dams."

245. Vale's 2016 Sustainability Report stated that:

At Vale, dedicated and qualified teams are assigned the responsibility of dam safety management. Vale aims to operate its dams using advanced engineering techniques, following strict

controls, monitoring their performances in a systemic way, and evaluating safety conditions through annual external audits. . . .

The structures undergo visual inspections and are monitored by instruments that provide information on their structural behavior. The visual inspections are performed fortnightly and include a detailed checklist that allows for evaluating the conditions and changes in the structure.

The information gathered in inspections and in data obtained through monitoring instruments installed in the dams is recorded in auditable systems and analyzed by geotechnical engineers, who periodically evaluate if the conditions raised in the field and the readings from instruments are in accordance with the normal operating conditions of the structures.

In addition to inspection and monitoring routines, they undergo periodic maintenance, such as the cleaning of drainage and overflow structures, weeding, recovery of small erosions, restoration of slope coverage, among others, in order to ensure adequate conservation conditions for good performance. At Vale, all dams, even if no longer in operation, remain under its responsibility and are monitored, audited, and maintained normally under the same criteria and safety levels adopted during their operation.

246. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because having chosen to speak about its practices for monitoring dam stability, Vale omitted to disclose that Dam 1 (and other Vale tailings dams) had a high probability of failure and that at least Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

247. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements are "neither aspirational nor vague" and "[i]f credited by the factfinder" "may just as easily be called a lie," because they contained "specific representations about [Vale's] then-existing practices for monitoring dam stability that an investor could

reasonably rely upon in assessing the strength of Vale's risk management practices and the risk of a dam collapse."

248. In discussing Vale's "Dam and mineral residues management," Vale's 2017 Sustainability Report stated:

Vale maintains the management of its dams in permanent alignment and updating with the good and strictest international practices, standards of which exceed the legal requirements. . . . International specialists and external auditors recognize Vale as a model for risk management in the global industry. The strictness adopted is a demonstration of the our [sic] understanding that efficient dam management is a vital aspect not only for for [sic] Vale operations and its workforce, but also for the communities surrounding these structures. . . .

[S]pecialized teams are dedicated to controlling Vale's dams, deploying qualified professionals at the operation sites to take care of the structures day-to-day, and at the offices to develop projects, studies and analyses to assure safety and reduce structural risks . . . In addition to applying best practices pertaining to dam safety management, Vale submits its structures to audits conducted by specialized external consultants, and rigorously complies strictly with applicable legislation.

Another highlight this year was implementing the International Panel of Experts on the Ferrous area, composed of international and national technicians who work in risk management, geotechnics and water resources. The panel's purpose is to evaluate governance, processes, studies, projects and technical analyses of geotechnics and hydrology.

249. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because having chosen to speak about its practices for monitoring dam stability, Vale omitted to disclose that Dam 1 (and other Vale tailings dams) had a high probability of failure and that at least Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies.

250. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements "lull[] the reader into a false sense of security as to the strength

of Vale's risk management and safety practices where [they] omitted facts such as: dams did not comply with the international 1.3 factor of safety recommendation or Vale's internal  $1 \times 10^{-4}$  failure probability, . . .; at least one DCE was based on methodologies condemned by Potamos and the PIESEM panel, . . .; and external auditors were unduly influenced to issue DCEs."

#### **IV. Defendants' False and Misleading Statements About Vale's Operational Risk Management**

251. Vale's SEC February 2017 6-K, stated, with respect to Vale's Operational Risk Management, that:

The operational risk management is the structured approach that Vale uses to manage uncertainty related to possible inadequate or failure in internal processes, people, systems and external events, in accordance with the principles and guidelines of ISO 31000. The main operational risks are periodically monitored, ensuring the effectiveness of preventative and mitigating key controls in place and the execution of the risk treatment strategy (implementation of new or improved controls, changes in the risk environment, risk sharing by contracting insurance, provisioning of resources, etc.). Therefore, the Company seeks to have a clear view of its major risks, the best cost-benefit mitigation plans and the effectiveness of the controls in place, monitoring the potential impact of operational risk and allocating capital efficiently.

252. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because having chosen to speak about its practices for monitoring operational risk, Vale omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe. These omissions demonstrate that Vale's operational risk monitoring processes were ineffective at preventing or mitigating the company's major risks.



253. Indeed, this statement about Vale’s operational risk mitigation could be considered by a reasonable investor in, as this Court explained in denying Defendants’ motion to dismiss the Class Action complaint, “assessing the risk of a dam collapse, particularly where Defendants allegedly disregarded warnings about Dam 1’s stability and improperly obtained DCEs.”

254. Vale’s 2016 Annual Report stated, under the heading Operational Risk:

Operational risk management is the structured approach we take to manage uncertainty related to internal and external events. Internal events consist of inadequate or failed internal processes, people and systems, while external events include natural or third party-caused operational catastrophes, regulatory, political, economic or social actions taken by governments or other key stakeholders. We mitigate operational risk with new controls and improvement of existing ones, new mitigation plans and transfer of risk through insurance. We seek a clear view of the major risks we are exposed to, the cost-benefit on mitigation plans and the controls in place to closely monitor the impact of operational risks and to efficiently allocate capital to reduce it.

255. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because having chosen to speak about its practices for managing and mitigating operational risk, Vale omitted to disclose that (i) according to Vale’s own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies; and (iii) according to Vale’s own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe. These omissions demonstrate that Vale’s operational risk management and mitigation processes were ineffective at managing or mitigating the company’s operational and major risks.

256. Indeed, this statement about Vale’s operational risk management and mitigation could be considered by a reasonable investor in, as this Court explained in denying Defendants’ motion to dismiss the Class Action complaint, “assessing the risk of a dam collapse, particularly

where Defendants allegedly disregarded warnings about Dam 1's stability and improperly obtained DCEs."

257. Vale's February 2018 6-K, stated, with respect to Vale's Operational Risk Management, that:

The operational risk management is the structured approach that Vale uses to manage uncertainty related to possible inadequate or failure in internal processes, people, systems and external events, in accordance with the principles and guidelines of ISO 31000. The main operational risks are periodically monitored, ensuring the effectiveness of preventive and mitigating key controls in place and the execution of the risk treatment strategy (implementation of new or improved controls, changes in the risk environment, risk sharing by contracting insurance, provisioning of resources, etc.). Therefore, the Company seeks to have a clear view of its major risks, the best cost-benefit mitigation plans and the effectiveness of the controls in place, monitoring the potential impact of operational risk and allocating capital efficiently.

258. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because having chosen to speak about its practices for monitoring operational risk, Vale omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe. These omissions demonstrate that Vale's operational risk monitoring processes were ineffective at preventing or mitigating the company's major risks.

259. Indeed, this statement about Vale's operational risk mitigation could be considered by a reasonable investor in, as this Court explained in denying Defendants' motion to dismiss the Class Action complaint, "assessing the risk of a dam collapse, particularly where Defendants allegedly disregarded warnings about Dam 1's stability and improperly obtained DCEs."

260. Vale's 2017 Annual Report, which was signed by Defendants Schvartsman and Siani, stated, under the heading Operational Risk:

Operational risk management is the structured approach we take to manage uncertainty related to internal and external events. Internal events consist of inadequate or failed internal processes, people and systems, while external events include natural or third party-caused operational catastrophes, regulatory, political, economic or social actions taken by governments or other key stakeholders. We mitigate operational risk with new controls and improvement of existing ones, new mitigation plans and transfer of risk through insurance. We seek a clear view of the major risks we are exposed to, the cost-benefit on mitigation plans and the controls in place to closely monitor the impact of operational risks and to efficiently allocate capital to reduce it.

261. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because having chosen to speak about its practices for managing and mitigating operational risk, Vale omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe. These omissions demonstrate that Vale's operational risk management and mitigation processes were ineffective at managing or mitigating the company's operational and major risks.

262. Indeed, this statement about Vale's operational risk management and mitigation could be considered by a reasonable investor in, as this Court explained in denying Defendants' motion to dismiss the Class Action complaint, "assessing the risk of a dam collapse, particularly where Defendants allegedly disregarded warnings about Dam 1's stability and improperly obtained DCEs."

**V. Defendants’ False and Misleading Statements About Vale’s Focus on and Commitment to Safety, Sustainability and the Environment.**

263. During an October 27, 2016 conference call with analysts about Vale’s third quarter 2016 earnings results, Vale’s then-CEO, Defendant Ferreira, stated that Vale was “driven by [its] commitment to safety, to people and to preserve the environment,” that Vale “understand[s] that it’s important to all of [its] stakeholders, including the people and places where [Vale] operates” and that Vale was “constantly looking to adapt and evolve by building what [it has] seen, experienced and learned.”

264. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize Vale’s commitment to safety, people and the environment, Ferreira omitted to disclose that (i) according to Vale’s own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies; and (iii) according to Vale’s own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Vale’s tailings dams (including Dam 1) posed a material risk to safety, people and the environment.

265. These statements were further false and misleading because although Ferreira stated that Vale was “driven” by its commitment to “safety,” he did not disclose the foregoing information about Dam 1 or Vale’s other tailings dams, which presented material process safety risks to Vale. As Vale’s own independent investigation report concluded, Vale’s “safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry).”

266. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements “emphasized [Vale’s] commitment” to safety and thus “put the topic at issue.”

267. The Vale Day NY 2016 Presentation, delivered in New York, New York, stated that “[s]ustainability is one of Vale’s strategic pillars” and, with respect to risk management, that there had been a “17% reduction in the number of incidents with high potential impact” in 2015 versus 2014.

268. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize that sustainability was one of Vale’s “pillars” and that there had been a reduction in high potential impact incidents in 2015, the presentation omitted to disclose that (i) according to Vale’s own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies; and (iii) according to Vale’s own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale’s other tailings dams posed a material risk of causing a high potential impact incident and undermining Vale’s “strategic pillar[]” of sustainability.

269. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements “emphasized [Vale’s] commitment” to sustainability and thus “put the topic at issue.”

270. Vale’s 2016 Annual Report, under the heading “Commitment to sustainability,” stated that Vale was “committed to promoting sustainable development, which means generating value for our shareholders and other stakeholders, and simultaneously improving health and safety

of our workers, enhancing the well-being of the communities surrounding our operations and protecting the environment,” and listed measures “illustrating [Vale’s] commitment to sustainability.”

271. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize that Vale was committed to promoting sustainable development and even listing specific sustainability measures, the statements omitted to disclose that (i) according to Vale’s own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies; and (iii) according to Vale’s own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale’s other tailings dams posed a material risk to Vale’s commitment to sustainability.

272. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements “emphasized [Vale’s] commitment” to sustainability and thus “put the topic at issue.”

273. Vale’s 2016 Sustainability Report stated that “‘Life matters most’ permeates Vale’s activities, which . . . invest[] in prevention, process standardization, risk management, and in the Genuine Active Care culture.”

274. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because, despite having chosen to emphasize Vale’s commitment to safety, it omitted to disclose that (i) according to Vale’s own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale’s own internal standards and through the use of erroneous methodologies; and

(iii) according to Vale’s own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale’s other tailings dams posed a material risk to safety and human life.

275. This statement was further false and misleading because although it emphasized Vale’s commitment to safety, it did not disclose the foregoing information about Dam 1 and Vale’s other tailings dams, which presented material process safety risks to Vale, its employees and third parties. As Vale’s own independent investigation report concluded, Vale’s “safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry).”

276. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements “emphasized [Vale’s] commitment” to safety and thus “put the topic at issue.”

277. The 2016 Sustainability Report also contained a letter from Vale’s then-CEO, Defendant Ferreira, which stated:

We want to generate long-term value for the communities where we operate, respecting the environment and people’s lives; increase our resilience with respect to economic cycles, and be flexible and capable of generating financial returns. We know the size of our responsibility and believe that development is only sustainable when the Vale and society grow together, sharing the generated value. This means building an economic, social, and environmental legacy in the regions where we are present, mitigating the impacts of our operations in the communities where we operate, and inducing sustainable practices throughout the entire value chain. These, alongside other issues such as human rights, labor rights, anticorruption, and environmental protection, are demonstrated in actions that are part of our commitment to the principles of the United Nations Global Compact. ... Life matters most at work, at home, and in our communities. We are responsible for making this a reality.

278. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize Vale's commitment to sustainability and safety, Ferreira omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to safety and Vale's commitment to engage in sustainable operations and to foster positive economic, social, and environmental impacts from its operations.

279. These statements were further false and misleading because although Ferreira emphasized Vale's commitment to safety, he did not disclose the foregoing information about Dam 1 and Vale's other tailings dams, which presented material process safety risks to Vale, its employees and third parties. As Vale's own independent investigation report concluded, Vale's "safety aspects were predominantly focused on workplace safety (*e.g.*, prevention and reduction of workplace accidents), without the necessary focus on process safety (*e.g.*, minimization of large-scale risk minimization, inherent to operation in a hazardous industry)."

280. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements "emphasized [Vale's] commitment" to safety and sustainability and thus "put the topic[s] at issue."

281. On May 2017 Bank of America Mining Conference Presentation given by the then-CEO of Vale, Defendant Ferreira, at the Bank of America Merrill Lynch Global Metals, Mining & Steel Conference was entitled "Reshaping Vale: a leaner and more competitive company" and



it highlighted Vale's "transformational leadership with three main pillars," one of which was "ethics and sustainable development." The presentation also stated the "[t]he revision of [Vale's] values was the foundation for the company's transformation," including "Life matters most" and "Prize our planet," and that "[b]ased on these values, Vale achieved higher levels of sustainable development," including with respect to the environment and health and safety, the latter of which included an "Annual Safety Reflection Day promoted for all employees and third-party workers." The presentation also touted as "accomplishments," the reduction in recordable injuries from 2011 through 2016 and "[r]eduction of risks through increased control mechanisms, technical improvements and implementation of the Integrated HSE Management System."

282. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize Vale's commitment to sustainability, safety and the environment, Ferreira omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to safety, sustainability and the environment.

283. These statements were further false and misleading because although Ferreira emphasized Vale's commitment to safety, including the reduction in recorded injury rates and the reduction of risks through increased control mechanisms, technical improvements and implementation of the Integrated HSE Management System, he did not disclose the foregoing information about Dam 1 and Vale's other tailings dams, which presented material process safety

risks to Vale, its employees and third parties. As Vale's own independent investigation report concluded, Vale's "safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry)."

284. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements "emphasized [Vale's] commitment" to safety and sustainability and thus "put the topic[s] at issue."

285. During Vale's New York Investor Day, held in the Boardroom of the New York Stock Exchange in New York, New York on December 6, 2017, Defendant Osorio stated that "[f]irst of all and most importantly, safety is our top priority" and that "in 10 years' time [Vale] reduced the total injury time from 11.2 to 2.1 total injury time." Osorio also stated that "sustainability is one of the pillars to [Vale's] growth and prosperity" and that Vale was "commit[ed]" to "become a benchmark in sustainability" and was "making sure that [Vale] ha[d] the proper and correct goals, indicators, transitional model and structure to deliver these results [for] this bold commitment."

286. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize that Vale was putting a renewed focus on sustainability and that sustainability was a "pillar" of the company's growth and prosperity, Osorio omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had

unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to Vale's sustainability focus, and, in turn, the company's growth and profitability.

287. These statements were further false and misleading because although Osorio stated that "safety" was Vale's "top priority" and that a personal safety metric (i.e., injury time) had improved over the prior ten years, Osorio did not disclose the foregoing information about Dam 1 and Vale's other tailings dams, which presented material process safety risks to Vale. As Vale's own independent investigation report concluded, Vale's "safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry)."

288. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements "emphasized [Vale's] commitment" to safety and sustainability and thus "put the topic[s] at issue."

289. During Vale's London Investor Day, held on December 8, 2017, Vale's then-CEO, Defendant Schvartsman, stated that Vale was going to "put a renewed focus" on "sustainability" and that Vale's "idea here is a systematic one," to treat sustainability "in a different manner" than "in the past" and that Vale was "starting to" do "much more systematic planning and execution of all measures regarding sustainability, regarding both environment and social."

290. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because, despite having chosen to emphasize that Vale was putting a renewed focus on sustainability, including systematic planning and execution, Schvartsman omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an

unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to Vale's environmental and social sustainability focus, planning and execution.

291. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, this statement "emphasized [Vale's] commitment" to sustainability and thus "put the topic at issue."

292. During the same London Investor Day, Defendant Osorio presented about sustainability and stated that "sustainability is one of the pillars to . . . [Vale]'s growth and prosperity" and that Vale was "commit[ed] to become a leader in sustainability." Osorio also stated that "safety" was Vale's "top priority" and that "in 10 years' time, [Vale] reduced the total injury time from 11.2 to 2.1."

293. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize that Vale was putting a renewed focus on sustainability and that sustainability was a "pillar" of the company's growth and prosperity, Osorio omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to Vale's sustainability focus, and, in turn, the Company's growth and profitability.

294. These statements were further false and misleading because although Osorio stated that “safety” was Vale’s “top priority” and that a personal safety metric (i.e., injury time) had improved over the prior ten years, Osorio did not disclose the foregoing information about Dam 1 and Vale’s other tailings dams, which presented material process safety risks to Vale. As Vale’s own independent investigation report concluded, Vale’s “safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry).”

295. Indeed, as this Court found in denying Defendants’ motion to dismiss the Class Action complaint, these statements “emphasized [Vale’s] commitment” to safety and sustainability and thus “put the topic[s] at issue.”

296. Vale’s 2017 Annual Report, under the heading “Commitment to sustainability,” stated that Vale is “committed to becoming a sustainability benchmark through a comprehensive approach based on systematic planning and execution, prioritizing risk and impact management (seeking to achieve zero harm to our employees and surrounding communities) and establishing a positive social, economic and environmental legacy in the places where we operate.” This statement was followed by “a list of measures illustrating [Vale’s] commitment to sustainability,” including “We are committed to improving the health and safety of our workers. Our total recordable injury frequency performance in 2017 was 2.0 per million hours worked, slightly higher than the frequency of 1.89 per million hours worked recorded in the previous year, although demonstrating a 24% improvement over the last five years.”

297. These statements, which caused Vale securities to trade at artificially inflated prices, were materially false or misleading because, despite having chosen to emphasize that Vale

was committed to promoting sustainable development and even listing specific sustainability measures, the statements omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to Vale's commitment to sustainability.

298. These statements were further false and misleading because although they emphasized Vale's commitment to safety, including the reduction in recorded injury rates, they did not disclose the foregoing information about Dam 1 and Vale's other tailings dams, which presented material process safety risks to Vale, its employees and third parties. As Vale's own independent investigation report concluded, Vale's "safety aspects were predominantly focused on workplace safety (e.g., prevention and reduction of workplace accidents), without the necessary focus on process safety (e.g., minimization of large-scale risk minimization, inherent to operation in a hazardous industry)."

299. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, these statements "emphasized [Vale's] commitment" to safety and sustainability and thus "put the topic[s] at issue."

300. In an April 10, 2018 article in *Valor Econômico*, Vale's then-CEO, Defendant Schvartsman, indicated that "sustainability is part of the 'core business'" of Vale, and that "it is necessary for the mining company [i.e., Vale] to be environmentally, socially and economically sustainable for its survival."

301. This statement, which caused Vale securities to trade at artificially inflated prices, was materially false or misleading because, despite having chosen to emphasize that sustainability was part of the core business of Vale, Schvartsman omitted to disclose that (i) according to Vale's own internal analysis, Dam 1 had an unacceptably high probability of failure; (ii) Dam 1 had been certified as safe in violation of Vale's own internal standards and through the use of erroneous methodologies; and (iii) according to Vale's own internal analysis, other Vale tailings dams had unacceptably high probabilities of failure or were unacceptably unsafe, and thus that Dam 1 and Vale's other tailings dams posed a material risk to Vale's environmental, social and economic sustainability commitments and efforts.

302. Indeed, as this Court found in denying Defendants' motion to dismiss the Class Action complaint, this statement "emphasized [Vale's] commitment" to sustainability and thus "put the topic at issue."

## **VI. Misrepresentations Concerning Effectiveness of Internal Controls**

303. Defendants certified that they had established effective disclosure controls and procedures for Vale.

304. For example, in the 2016 Annual Report, Vale disclosed:

### **Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2016. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Our chief executive officer and chief financial officer have concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be

disclosed by us in the reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

305. Vale made a substantially similar internal control disclosure in its 2017 Annual Report.

306. Along with the 2016 Annual Report, Defendants Ferreira and Siani provided a certification, pursuant to Section 302 of SOX, concerning Vale's internal controls. Each of Ferreira and Siani stated:

1. I have reviewed this annual report on Form 20-F of Vale S.A.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;  
. . . .
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15-d-15(f)) for the company and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;  
. . . .
  - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; . . . .



307. Defendants Schvartsman and Siani provided substantially identical certifications pursuant to Section 302 of SOX in connection with the 2017 Annual Report.

308. The statements in paragraphs 304 through 307, which caused Vale Common ADS to trade at artificially inflated prices, were materially false and misleading because Vale did not have effective disclosure controls and procedures between 2016 and 2019.

309. Indeed, any internal controls that Vale did have in place were woefully deficient to prevent Defendants committing the fraud that they perpetrated, as demonstrated by the findings Vale's own independent investigation report, the Brazilian Senate Report and the Minas Gerais Report, as well as Vale's recent receipt of an SEC Wells Notice related to its disclosures about dam safety and Dam 1, in particular.

310. Defendants Ferreira, Schvartsman and Siani knew that Dam 1 and other Vale tailings dam were unsafe and posed an unreasonable risk of collapsing, yet this information was concealed from, and not disclosed to, Vale's investors. The deliberate omission of this crucial information relating to an existential and known risk to Vale, especially after the November 2015 Mariana dam collapse, demonstrates the utter lack of Vale's internal controls and procedures over its disclosures.

#### **SUMMARY OF DEFENDANTS' SCIENTER**

311. Plaintiffs repeat and reallege each and every paragraph contained above as if set forth herein.

312. Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio acted with scienter with respect to the materially false and misleading statements of material fact set forth above because they knew, or at the very least recklessly disregarded, that those statements were false when made. As the most senior executives of Vale during the relevant time period, their scienter is imputable to Vale.

313. As Vale's own independent investigation report makes clear, *at least since 2003*, Vale had information about the fragile condition of Dam 1. This information took on heightened importance following the November 2015 Mariana dam collapse, which made plain the grave danger posed to Vale, its employees, those living around dams and the environment from a dam collapse.

314. The Individual Defendants knew or at the least recklessly disregarded the acute risks posed by the unsafe condition of Dam 1.

315. As the Brazilian Senate Report concluded, "Vale's management and board of directors knew about the risks and decided to take them." That decision was intentional or, at the very least, reckless.

316. In addition, the Individual Defendants knew or, at the very least, recklessly disregarded the severe conflicts of interest, described above, that infected Tüv Süd, which audited the safety of the Dam, but also had consulting and other business relationships with Vale and its employees.

317. Indeed, this was not the first time that Vale used compromised auditors for dam safety. The company that Samarco hired to check the safety of the Mariana dam, which collapsed in 2015, was also developing projects for that dam.

318. Vale's own independent investigation report reviewed the company's compensation and incentive structure and its relationship to dam safety and found a "major emphasis on financial aspects." For Geotechnical Operations employees, "no specific safety goals for geotechnical structures were identified for the purpose of variable compensation in fiscal year 2018. For the 2016 and 2017 fiscal years, safety goals consisted mainly of performing external audits and obtaining DCEs." For Geotechnical Risk Management employees, "specific dam safety

goals represent a small participation compared to financial components” and were “essentially linked to regulatory compliance (e.g., obtaining the DCE).” For its part, the Brazilian Senate reported that the compensation of Vale’s managers was based 60% on revenue generation, 10% on health and safety, 10% on sustainability, and 20% on strategic initiatives.

319. The Individual Defendants knew or, at the very least, recklessly disregarded that Vale’s compensation structure did not prioritize dam safety, despite its heightened importance to the company following the 2015 Mariana dam collapse.

320. In sum, as the Court found in denying Defendants’ motion to dismiss the Class Action complaint, there were “various reasonably available facts, or red flags, that should have put [Vale] officers on notice that [their] public statements were false. These include warnings from auditors, low factor of safety assessments, problematic dam behavior, risk curves showing multiple dams with unacceptable failure probabilities, and alarming PIESEM findings as to Dam 1’s stability.”

321. **Defendant Ferreira.** Defendant Ferreira was Vale’s CEO from May 2011 through May 2017.

322. As Vale’s own independent investigation report found, Vale had known about the fragile condition of Dam 1 since at least **2003**, eight years before Ferreira became CEO. In 2016, when Ferreira was CEO, studies indicated that Dam B1 was in fragile condition and in July 2016, Defendant Poppinga made the decision to cease disposal of tailings at the Dam because of safety concerns. Ferreira knew these facts or, at the very least, recklessly disregarded them, especially given the heightened importance of dam safety following the November 2015 Mariana dam collapse.

323. Defendant Poppinga testified before the Brazilian Senate that “immediately” after the November 2015 Mariana dam collapse, Vale created the Business Risk Department (“GRN”) to serve as a second-line of defense for dam safety and that GRN “reported monthly” to Vale’s executive board.

324. As this Court found in denying Defendants’ motion to dismiss the Class Action complaint, “[a]s CEO, Ferreira . . . received the monthly risk reports from GRN and made representations in the aftermath of Mariana suggesting knowledge about dam stability.”

325. **Defendant Schvartsman.** Defendant Schvartsman was Vale’s CEO from May 2017 through March 2019.

326. As Vale’s own independent investigation report found, studies performed in 2017 indicated that Dam 1 had only “marginal stability.” Schvartsman knew these facts or, at the very least, recklessly disregarded them, especially given the heightened importance of dam safety following the November 2015 Mariana dam collapse.

327. In November 2017, Rocha’s presentation on Tolerable Risk Criteria placed Dam 1 in the unacceptable risk category, meaning that it would be included in Vale’s Business Risk Matrix and presented to, among others, Schvartsman as CEO.

328. As this Court found in denying Defendants’ motion for reconsideration of the Court’s denial of Defendants’ motion to dismiss the Class Action complaint, it is of no moment whether Dam 1 was actually included in the Business Risk Matrix presented to Schvartsman because “the inclusion of six other problematic dams” in that Risk Matrix “certainly supports” the “contention that Defendants knowingly misrepresented the state of Vale’s dams.”

329. Moreover, Schvartsman testified before the Brazilian Senate that in his first month as CEO, he “made the decision” to “change[] the [safety] valuation factor” to a minimum of “1.3”

and ordered a “a subsequent audit” to see if any Vale dams would have “difficulty in obtaining a stability report.” Thus, Schvartsman knew that Vale’s internal minimum safety factor was 1.3 and knew or, at the very least, recklessly disregarded that Dam 1 had been repeatedly certified with a safety factor less than 1.3.

330. In addition, when asked by the Brazilian Senate if he shared with then-CEO Defendant Schvartsman any documents about Dam 1, Defendant Poppinga testified that “I never failed to pass anything on to Mr. Fábio Schvartsman on this matter.” Thus, Schvartsman knew or, at the very least, recklessly disregarded that Dam 1 was unsafe since at least July 2016, given that Defendant Poppinga had that knowledge. In addition, Schvartsman knew, or at the very least, was reckless in not knowing about the multiple internal Vale emails from June 2018 forward discussing the unstable condition of Dam 1, given that all of those emails were sent to or from Defendant Poppinga’s direct reports, with whom he met weekly about dam safety issues.

331. As this Court also found in denying Defendants’ motion for reconsideration of the Court’s denial of Defendants’ motion to dismiss the Class Action complaint, “media reports state that Defendant Schvartsman commissioned a review of dam conditions and said himself that ‘As soon as [he] started as president, [he] thought about the state of the dams . . . today the dams are impeccable.’”

332. **Defendant Poppinga.** As Vale’s own independent investigation found, Defendant Poppinga had actual knowledge that Dam 1 was unsafe when he made the decision in July 2016 that the dam should not accept any additional tailings deposits. Although after the Dam 1 collapse, Poppinga gave alternate explanations for that decision that did not involve the safety of Dam 1, Vale’s independent investigation report concluded that those explanations were not credible.

333. From June 2018 forward, Poppinga's direct reports, with whom he testified he met weekly about dam safety issues, sent and received numerous emails that discussed in detail the fragile state of Dam 1 and remedial measures that were recommended to be taken.

334. In addition to knowing that the Dam 1 was unsafe since at least July 2016, if not prior, Defendant Poppinga knew that Brazilian dam safety officials lacked the resources to comprehensively inspect dams. He testified to the Brazilian Senate that although the dam regulators were "very competent," they had "few resources" and could not "inspect in a more routine way."

335. Defendant Poppinga also knew of the pervasive and inappropriate conflicts of interest possessed by Tüv Süd. He testified to the Brazilian Senate that "TÜV SÜD, who was auditing our dams, simultaneously was also working on other services at the company, which may be a conflict of interest" and that "there should be rules to avoid these situations."

336. Moreover, in denying Defendants' motion for reconsideration of the Court's denial of Defendants' motion to dismiss the Class Action complaint, this Court has already rejected the theory that Poppinga took steps to raise safety concerns about Dam 1 or otherwise acted in good faith so as to negate his scienter. As this Court stated, "emails suggest that Defendant Poppinga was engaged in a cover up rather than heroic efforts," including because of "the existence of repeated and unaddressed red flags regarding Dam 1's stability; Defendant Poppinga's testimony that he had 'weekly meetings providing 'all the necessary information to know if there was a more serious problem' with dam safety; evidence that the Geotechnical Risk Management Department pressured auditors to issue DCEs for unqualified dams; Vale's statement that all dams in Poppinga's division received 2016 DCEs; and Minas Gerais' House of Representatives' . . . recommendation that criminal and civil charges be levied against Defendant Poppinga."

337. **Defendant Siani.** As this Court found in denying Defendants’ motion to dismiss the Class Action complaint, Defendant Siani “headed the GRN unit that analyzed dam risks and maintained the risk matrix, and allegedly received information on dam risks not only in this role, but also in monthly reports issued by the GRN to the Executive Risk Committee that Siani chaired.”

338. **Defendant Osorio.** As this Court found in denying Defendants’ motion to dismiss the Class Action complaint, Osorio “allegedly received monthly risk reports from GRN and made public representations as to Vale’s commitment to safety and sustainability.”

### **PRESUMPTION OF RELIANCE**

339. For purposes of their claims under Sections 10(b) and 20(a) of the Exchange Act, Plaintiffs intend to rely upon the presumption of reliance established by the fraud-on-the-market doctrine in that, among other things: (a) Defendants made public misrepresentations or failed to disclose material facts during the relevant time period; (b) the omissions and misrepresentations were material; (c) Vale Common ADS and Preferred ADS traded in an efficient market; (d) the misrepresentations alleged would tend to induce a reasonable investor to misjudge the value of Vale Common ADS and Preferred ADS; and (e) Plaintiffs purchased or acquired Vale Common ADS and Preferred ADS between the time Defendants misrepresented or failed to disclose material facts and the time when the true facts were disclosed, without knowledge of the misrepresented or omitted facts.

340. The market for Vale Common ADS and Preferred ADS was open, well-developed and efficient at all relevant times. As a result of the aforementioned materially false and misleading statements, Vale Common ADS and Preferred ADS traded at artificially inflated prices during the relevant period. The artificial inflation continued until the time the market fully came to realize the nature and extent of Defendants’ misrepresentations concerning the stability of

Vale's tailings dams, the company's commitment to safety and sustainability and the company's purportedly robust safety and risk management policies and practices.

341. At all relevant times, the market for Vale Common ADS and Preferred ADS was efficient for the following reasons, among others: (a) Vale filed periodic reports with the SEC; (b) Vale Common ADS and Preferred ADS were listed and actively traded on the NYSE during the time that Plaintiffs purchased or acquired Vale Common ADS and Preferred ADS; (c) numerous analysts followed Vale; and (d) Vale regularly communicated with public investors via established market communication mechanisms, including through regular disseminations of press releases on the major news wire services and through other wide-ranging public disclosures, such as communications with the financial press, securities analysts and other similar reporting services.

342. Plaintiffs relied on the market price of Vale Common ADS and Preferred ADS, which reflected all the information in the market, including the misstatements by Defendants.

#### **PLAINTIFFS' ACTUAL RELIANCE**

343. During the relevant period, Plaintiffs' investment in Vale securities was managed by Orbis. Orbis made the investment decisions with respect to Plaintiffs' purchases of Vale securities. Factors considered by Orbis in making such decisions included, among other things, Vale's financial performance and a review of the Company's strengths, weaknesses, and opportunities.

344. Prior to making the decision to purchase Vale securities, an Orbis investment professional actually and justifiably read, reviewed and relied upon (to the extent the referenced documents had been published at the time) (i) Vale's 2016 Annual Report; (ii) Vale's May 2017 6-K; (iii) Vale's January 2019 6-K; (iv) Vale's February 2017 6-K; (v) Vale's February 2018 6-K; (vi) Vale's 2017 Annual Report; (vii) Vale's October 27, 2016 analyst conference call; (viii) the



Vale Day NY 2016 Presentation; (ix) Vale's May 2017 Bank of America Mining Conference Presentation; (x) Vale's December 6, 2017 New York Investor Day presentation; and (xi) Vale's December 8, 2017 London Investor Day presentation, including (as applicable): (a) the statements about the safety of Vale's tailings dams; (b) the statements about Vale's supposedly independent and reliable dam audits; (c) the statements about Vale's dam safety management; (d) the statements about Vale's operational risk management; (e) the statements about Vale's focus on and commitment to safety, sustainability and the environment; and (f) the statements about the effectiveness of Vale's disclosure controls and procedures.

345. Defendants' statements concerning these topics were material to Orbis's decision to purchase Vale securities on Plaintiffs' behalf. Each of these categories of statements was integral and necessary for Orbis to evaluate the effectiveness of Vale's dam safety and the risk that a dam would collapse, causing severe damage to Vale as a company and causing damage to Orbis by resulting in a decline in the value of Vale's securities. Indeed, the risk of a dam collapse took on acute and heightened importance following the November 2015 Mariana dam collapse.

346. Defendants' statements concerning the effectiveness of Vale's disclosure controls and procedures were material to Orbis's decision to purchase Vale securities on Plaintiffs' behalf. A lack of effective disclosure controls and procedures means that material information concerning Vale might never be publicly disclosed.

347. Orbis actually and justifiably relied upon information contained in Vale's (i) Vale's 2016 Annual Report; (ii) Vale's May 2017 6-K; (iii) Vale's January 2019 6-K; (iv) Vale's February 2017 6-K; (v) Vale's February 2018 6-K; (vi) Vale's 2017 Annual Report; (vii) Vale's October 27, 2016 analyst conference call; (viii) the Vale Day NY 2016 Presentation; (ix) Vale's May 2017 Bank of America Mining Conference Presentation; (x) Vale's December 6, 2017 New

York Investor Day presentation; and (xi) Vale's December 8, 2017 London Investor Day presentation (to the extent each such document was published at the time) in making each purchase of Vale securities on behalf of Plaintiffs.

### **LOSS CAUSATION**

348. As the truth about the instability of Vale's tailings dams, the risk of dam failure, the compromised dam safety audits, Vale's ineffective operational risk monitoring processes, and the lack of internal controls at Vale gradually and slowly leaked into the market, the price of Vale's Common ADS dropped precipitously.

349. Defendants' wrongful conduct, as alleged herein, directly and proximately caused the economic loss suffered by Plaintiffs. During the time that Plaintiffs purchased Vale securities, the market price of those securities was artificially inflated as a direct result of Defendants' materially false and misleading statements. Specifically, Defendants' positive statements about the stability of Vale's tailings dams, the company's commitment to safety and sustainability and the company's purportedly robust safety and risk management policies and practices, their failure to disclose information known to them about the unacceptably high risk that Dam 1 would collapse, and their assurances of effective disclosure controls and procedures caused the price of Vale securities to be artificially inflated.

350. As a series of partial but inadequate disclosures were issued partially correcting the prior false and/or misleading statements concerning the stability of Vale's tailings dams, the company's commitment to safety and sustainability, and the company's purportedly robust safety and risk management policies and practices—and as the foreseeable risks previously concealed by Defendants' material misstatements and omissions partially materialized—the price of Vale Common ADS declined precipitously, and Plaintiffs were damaged.

351. On January 25, 2019, at 12:28 p.m. local time (10:28 a.m. New York time), Dam 1 collapsed. Vale Common ADS were trading on the NYSE at an intraday price of \$15.37 per share immediately before Dam 1 ruptured. The Brazilian stock market was closed for trading that day in observance of the São Paulo City Anniversary holiday. Thus, the underlying Vale common shares that the Vale Common ADS represented were not trading on January 25, 2019.

352. News of Dam 1's collapse became known to the market during NYSE trading hours on January 25, 2019, including a statement by Vale confirming the collapse and indicating the possibility of fatalities.

353. The price of Vale Common ADS dropped in response to this materialization of the risk. At the close of trading on January 25, 2019, Vale Common ADS closed at a price of \$13.66 per share, down from a price of \$14.86 per share at the close of trading on January 24, 2019, representing a loss in value of over 8%. The trading volume of Vale Common ADS on January 25, 2019 was over six times greater than its trading volume on January 24, 2019. Vale Common ADS hit an intraday low price on January 25, 2019 of \$12.85.

354. Indeed, as this Court has found, the Dam 1 collapse constitutes a materialization of a previously concealed material risk because Dam 1's collapse "was within the 'zone of risk' concealed by Vale's misrepresentations as to the likelihood of a Vale dam collapsing."

355. At the close of trading on the next trading day, January 28, 2019, Vale Common ADS closed at a price of \$11.20 per share, down from a price of \$13.66 per share at the close of trading on January 25, representing a loss in value of over 18%. The trading volume of Vale Common ADS on January 28, 2019 was over six times greater than its trading volume on January 24, 2019. Vale Common ADS hit an intraday low price on January 28, 2019 of \$11.08.

356. The decline in the price of Vale Common ADS on January 28, 2019 was proximately caused by the Dam 1 collapse that occurred on January 25, 2019. January 28, 2019 was the first day after Dam 1's collapse that the Brazilian stock market was open, and thus the first opportunity for the Vale shares that traded on that market—which shares underlie Vale's Common ADS—to impound the news about Dam 1's collapse.

357. Vale shares on the Brazilian stock market declined by approximately 25% on January 28, 2019. This is approximately the same percentage decline in value that Vale Common ADS suffered from the time of Dam 1's collapse on January 25 through the close of trading on January 28, 2019.

358. That the decline in Vale Common ADS on January 28, 2019 was proximately caused by the Dam 1 collapse is confirmed by numerous articles and reports appearing in the financial and business press. These sources explicitly attributed Vale's Common ADS price declines both on January 25 and January 28, 2019, to the Dam 1 collapse.

359. For example, in an article published on January 30, 2019, Zacks Equity Research wrote that the Dam 1 collapse resulted in a market value loss of "US\$18.96 billion" for Vale, consisting of 8% on January 25 and 18% on January 28.

360. Reuters also connected Vale's Common ADS declines on both January 25 and January 28 to the Dam 1 collapse, observing that the Brazilian stock market was closed on January 25 and, like Zacks Equity Research, reporting a market value loss of "\$18.96 billion" for Vale.

361. A January 29, 2019 Forbes article stated that "Vale's share price has tumbled, dropping by 25% since the dam burst first became public news."

362. Ratings agencies also reacted to the Dam B1 collapse on January 28, with Fitch downgrading Vale's debt to BBB- and placing it on a negative ratings watch.

363. On February 4, 2019, Bloomberg reported that Vale said it was “temporarily halting some operations at its Brucutu mine . . . in compliance with a Brazilian court order issued to help improve safety” after the Dam 1 collapse.

364. The price of Vale Common ADS dropped in response to this partial disclosure. At the close of trading on February 4, 2019, Vale Common ADS closed at a price of \$12.15 per share, down from a price of \$12.57 per share at the close of trading on February 1, 2019, representing a loss in value of 3.4%.

365. In denying the motion to dismiss in the Class Action, this Court held that the news that a Brazilian court “intervened to ‘improve safety’ could be considered a partial disclosure as to Vale’s misrepresentations about the stability of its dams and the strength of its dam safety policies.”

366. Media reports also connected the Brazilian court order reported by Bloomberg to the decline in Vale Common ADS on February 4, 2019. For example, Bloomberg News ran a headline at 12:52 p.m., “Vale ADRs Sink in NY as Miner Confirms Brucutu Stoppage.”

367. On February 6, 2019, *The Wall Street Journal* and *The Guardian* both published stories reporting that Vale had prior knowledge about Dam 1’s unsafe conditions and its unacceptable risk of rupturing.

368. For example, *The Guardian* article stated that “three mine workers told the Guardian that around July last year, repairs were carried out after the dam leaked water near its base. Another man said his brother – who worked at the mine and is still missing – was so worried about the leak he planned to leave his job.” The article went on to detail concerns raised by workers and others as to safety of the dam before its collapse.

369. *The Wall Street Journal* article stated that “[i]nspectors of a Brazilian mining-waste dam whose collapse last month killed at least 150 people had warned its owner that faulty water drainage and monitoring systems represented a potential risk of failure, according to a safety report reviewed by *The Wall Street Journal*. The report, provided to the mine’s owner Vale SA months before the disaster, found that flaws in monitoring crucial water concentrations and drainage made it difficult for the company to fully assess the dam’s stability.”

370. Also on February 6, 2019, Vale’s licenses for two other Brazilian mines were canceled by Brazilian authorities as a result of the Dam 1 collapse.

371. As Reuters reported in an article titled “Brazilian state cancels Vale licenses at two mines in wake of disaster”: “The Brazilian state of Minas Gerais canceled Vale SA’s license to operate a dam at one of its largest mines, the company said on Wednesday, following the collapse of another dam in the state that killed an estimated 300 people. . . . Vale . . . U.S. traded ADRs slumped 6.2 percent.”

372. The price of Vale Common ADS dropped in response to this partial disclosure and/or materialization of risk. At the close of trading on February 6, 2019, Vale Common ADS closed at a price of \$11.36 per share, down from a price of \$12.11 per share at the close of trading on February 5, 2019, representing a loss in value of over 6%.

373. In denying the motion to dismiss in the Class Action, this Court held that “the February 6, 2019 reports that Vale was warned of leaks, drainage, and monitoring system problems in Dam 1 revealed to the market alleged misrepresentations as to dam stability and safety and risk management practices. Allegations that TÜV SÜD should not have issued a DCE and had a conflict of interest also call into question Vale’s representations about its compliance and the integrity of dam audit processes.”

374. On May 16, 2019, Vale informed Brazilian prosecutors that the Gongo Soco tailings dam was at risk of collapsing. In response, prosecutors made a public recommendation that Vale inform the potentially affected population of the risks they would face if the Gongo Soco dam did, in fact, collapse.

375. At 2:35 p.m. on May 16, 2019, Bloomberg News published the headline, “Brazil Prosecutors Say Vale’s Gongo Soco Mine Risks Failing.”

376. The news of Vale’s statements to prosecutors and prosecutors publishing a document including disclosures about Gongo Soco’s safety and risk of resulting deaths if the dam collapsed disclosed additional corrective information to the market. In particular, it disclosed that Vale’s dam issues were endemic, raised questions about Vale’s corporate governance, and provided a further, incremental, negative piece of news as to Vale’s dam safety record.

377. For example, the Dow Jones Institutional News Feed reported in a post titled “Vale Puts Safety Concerns Back in the Spotlight – ESG Insight” that: “Vale’s warning of the potential imminent collapse of another one of its mining-waste dams, 90 miles away from January’s disaster site that killed hundreds of people in Brazil, raises new questions about the mining giant’s corporate governance. Investors are troubled by management’s inability to reduce the operational and safety risks related to its mining operations. Another environmental disaster would hurt the company’s already damaged reputation and could impair Vale’s access to capital markets. Market watchers say more stringent international tailings management regulations are required in order to help quantify Vale risks.”

378. The issues at Vale’s Gongo Soco dam reported on May 16, 2019 also reflected a materialization of the concealed risk of dam failure. Like Dam 1, the Gongo Soco dam had been reported in Vale internal risk management presentations as unacceptably risky and accordingly

was supposed to be included in Vale's Business Risk Matrix, which was shared with the board of directors, the CEO and Vale's Administrative Council. As this Court found with the Dam 1 collapse, the announcement of a potential collapse of the Gongo Soco dam constituted a materialization of a previously concealed material risk because the Gongo Soco dam's potential collapse was within the "zone of risk" concealed by Vale's misrepresentations as to the likelihood of a Vale dam collapsing.

379. The price of Vale Common ADS dropped as a result of this partial disclosure and/or materialization of risk. At the close of trading on May 16, 2019, Vale Common ADS closed at a price of \$11.51 per share, down from a price of \$12.00 per share at the close of trading on May 15, 2019, representing a loss in value of over 4%. The trading volume of Vale Common ADS on May 16, 2019 was double its trading volume on any of the fifteen prior trading days.

380. On July 2, 2019, during NYSE market hours, the Brazilian Senate released its report about the Dam 1 collapse. As detailed herein, the Senate Report contained extensive then-new information about Dam 1's collapse, as well as Vale's disregard of dam safety generally. Indeed, the Senate Report concluded that the collapse of Dam 1 was not an accident, but was caused by the "mantra of cost reduction" and that "Vale's management and board of directors knew about the risks and decided to take them."

381. The Senate Report and its contents were widely covered, including by the BBC, which summarized the Report's findings in detail.

382. The Senate Report disclosed additional corrective information to the market. The Report contained new and material, value-relevant information about Vale's fraud. In particular, the Report disclosed that Vale knew for years about the risks of Dam 1, how Vale engineering and technical staff interfered with external auditor safety reports and analyses and the knowledge of



senior Vale officials about unreported dam risks. These disclosures informed investors of the breadth and depth of Vale's culture of safety non-compliance, tone-at-the-top issues on safety and sustainability, and corruption with respect to supposedly independent dam auditors (despite Defendants' numerous statements to the contrary). The Report also further corrected investors understanding of the risks associated to Vale.

383. The Senate Report was also the materialization of a previously concealed risk. Vale, having had a dam collapse in 2015, knew or should have known that further dam collapses would subject Vale to sanctions, including criminal sanctions, and legislative scrutiny resulting in a negative impact on Vale's financial condition and thus on investors. The likelihood of a dam collapse was thus directly relevant to the likelihood of increased regulatory scrutiny and sanctions. By misleading the marketplace about the likelihood of a dam collapse, Vale prevented investors from properly pricing the likelihood of the risks of increased legislative scrutiny or criminal sanction.

384. The price of Vale Common ADS dropped as a result of this partial disclosure and/or materialization of risk. At the close of trading on July 2, 2019, Vale Common ADS closed at a price of \$13.29 per share, down from a price of \$13.93 per share at the close of trading on July 1, 2019, representing a loss in value of over 4.5%.

385. On January 21, 2020, during NYSE market hours, Brazilian authorities announced criminal charges against Defendant Schvartsman and 15 others related to the Dam 1 collapse. Schvartsman was charged with intentional homicide.

386. While the market already anticipated charges of some kind being brought against Vale executives, the market learned new and value relevant information about the extent of Vale's dam operations safety issues. Prosecutors told reporters that they had "collected a substantial

volume of proof that shows the knowledge of the risk by the president (Schvartsman) not just about the B1 dam, but rather also various dams with unacceptable security situations under Vale's management."

387. Prosecutors also made clear that their charges were based off of information received directly from Vale and Tüv Süd.

388. The January 21, 2020 disclosure revealed additional negative, fraud-related, value-relevant information to the marketplace. The charges of the Brazilian prosecutor indicated that they possessed evidence of intentional misconduct. Further, prosecutors' statements regarding their review of internal Vale materials and that they had found evidence showing the knowledge of risk at Vale sufficient to charge intentional homicide further informed the marketplace that Vale's conduct concerned multiple dams and, in fact, dam safety generally, as opposed to just issues with Dam 1, or even a localized problem.

389. The January 21, 2020 disclosure also was a materialization of the previously concealed risk of Vale's dam safety issues. Charges, including charges of intentional homicide, were within the "zone of risk" created by Vale's misleading the public, investors, and the Brazilian state.

390. The price of Vale Common ADS dropped as a result of this partial disclosure and/or materialization of risk. At the close of trading on January 21, 2020, Vale Common ADS closed at a price of \$13.25 per share, down from a price of \$13.63 per share at the close of trading on January 17, 2019, representing a loss in value of nearly 3%.

391. On February 20, 2020, after NYSE market hours, Vale released the executive summary of its own independent investigation into the Dam 1 collapse. This summary, which is quoted and discussed extensively herein, revealed further details about Vale's lax dam safety

efforts, its prior knowledge of the acute risks that Dam 1 could collapse, and other information about Vale's approach to safety and compliance not previously known publicly.

392. Analysts reacted to the report as a revelation of new, and important information.

393. For example, Morgan Stanley analysts led by Carlos De Alba wrote in a report "The [internal report] by a Board-appointed independent committee on the Brumadinho accident concluded that Vale had information indicating the fragile condition of B1 dam . . ." Morgan Stanley removed its price target for Vale entirely, and placed its ratings under review while analyzing the report.

394. Media reports also connected the decline in Vale Common ADS prices to the release of the internal report.

395. For example, MT Newswires, a provider of financial news, wrote in an article titled "Internal Probe Points to Vale's Prior Knowledge About Fragile Condition of Brumadinho Dam" that "Vale shares fell 4% in recent trading after an investigation conducted by an independent committee revealed the Brazilian miner had prior knowledge of the fragile condition of Brumadinho tailings dam, which suffered a catastrophic failure in January 2019 and killed more than 200."

396. The price of Vale Common ADS dropped as a result of this partial disclosure and/or materialization of risk. At the close of trading on February 21, 2020, Vale Common ADS closed at a price of \$11.42 per share, down from a price of \$11.85 per share at the close of trading on February 20, 2020, representing a loss in value of over 3.5%.

397. The next trading day, February 24, 2020, Vale Common ADS continued to fall as a result of this news, closing at a price of \$10.56 per share, down from a price of \$11.42 per share at the close of trading on February 21, 2019, representing a loss in value of over 7.5%. The trading

volume of Vale Common ADS on February 21 and 24, 2020 each, or combined, was significantly elevated.

### **NO SAFE HARBOR**

398. The statutory safe harbor provided for forward-looking statements under certain circumstances does not apply to any of the allegedly false statements pleaded in this Complaint. The specific statements pleaded herein were not “forward-looking statements” nor were they identified as “forward-looking statements” when made. Nor was it stated with respect to any of the statements forming the basis of this Complaint that actual results “could differ materially from those projected.” To the extent there were any forward-looking statements, there were no meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the purportedly forward-looking statements. Alternatively, to the extent that the statutory safe harbor does apply to any forward-looking statements pleaded herein, Defendants are liable for those false forward-looking statements because at the time each of those forward-looking statements was made, the particular speaker knew that the particular forward-looking statement was false, and/or the forward-looking statement was authorized and/or approved by an executive officer of Vale who knew that those statements were false when made. As the Court found in denying Defendants’ motion to dismiss the Class Action complaint, “[g]iven factual allegations that defendants knew their statements were false or misleading when made, the Court cannot at this stage conclude that they are protected by the PSLRA safe harbor or bespeaks-caution doctrine.”

**FIRST CAUSE OF ACTION**

**Violations of Section 10(b) of the Exchange Act and Rule 10b-5  
Against All Defendants**

399. Plaintiffs repeat and reallege each and every paragraph contained above as if set forth herein.

400. This cause of action is brought against Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio for violations of Section 10(b) of the Exchange Act, 15 U.S.C. § 78j, and Rule 10b-5 promulgated thereunder, 17 C.F.R. § 240.10b-5.

401. Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio both directly and indirectly used the means and instrumentalities of interstate commerce in the United States to make the materially false and misleading statements and omissions of material fact alleged herein to: (i) deceive the investing public, including Plaintiffs, as alleged herein; (ii) artificially inflate and maintain the market price of Vale Common ADS and Preferred ADS; and (iii) cause Plaintiffs to purchase or acquire Vale Common ADS and Preferred ADS at artificially inflated prices. In furtherance of this unlawful scheme, plan and course of conduct, Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio took the actions set forth above.

402. Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio both directly and indirectly: (i) employed devices, schemes and artifices to defraud; (ii) made untrue statements of material fact and/or omitted to state material facts necessary to make the statements not misleading; and (iii) engaged in acts, practices, and a course of business that operated as a fraud and deceit upon the purchasers of Vale Common ADS and Preferred ADS in an effort to artificially inflate and maintain the market prices for Vale Common ADS and Preferred ADS in violation of Section 10(b) of the Exchange Act and Rule 10b-5.

403. By virtue of their high-level positions at the Company, Ferreira, Schvartsman, Siani, Poppinga, and Osorio were authorized to make public statements, and made public statements on Vale's behalf. These senior executives were privy to and participated in the creation, development, and issuance of the materially false and misleading statements alleged herein, and/or were aware of the Company's and their own dissemination of information to the investing public that they recklessly disregarded was materially false and misleading.

404. In addition, Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio had a duty to disclose truthful information necessary to render their affirmative statements not materially misleading so that the market price of the Company's securities would be based on truthful, complete and accurate information.

405. Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio acted with knowledge or reckless disregard for the truth of the misrepresented and omitted facts alleged herein, in that they failed to ascertain and disclose the facts, even though such facts were known or readily available to them. Defendants Vale's, Ferreira's, Schvartsman's, Siani's, Poppinga's, and Osorio's material misrepresentations and omissions were done knowingly and/or recklessly, and had the effect of concealing the truth with respect to Vale's operations, business, performance and prospects from the investing public, including by making false and misleading statements about (a) the safety of Vale's tailings dams; (b) Vale's supposedly independent and reliable dam audits; (c) Vale's dam safety management; (d) Vale's operational risk management; (e) Vale's focus on and commitment to safety, sustainability and the environment; and (f) Vale's disclosure controls and procedures. By concealing these material facts from investors, Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio supported the artificially inflated price of Vale Common ADS and Preferred ADS.

406. The dissemination of the materially false and misleading information and failure to disclose material facts, as set forth above, artificially inflated the market price of Vale Common ADS and Preferred ADS. In ignorance of the fact that the market prices were artificially inflated, and relying directly or indirectly upon the materially false and misleading statements made by Defendants, and upon the integrity of the market in which the Company's securities trade, or upon the absence of material adverse information that was recklessly disregarded by Defendants, but not disclosed in public statements by Defendants, Plaintiffs purchased or acquired Vale Common ADS and Preferred ADS in the United States at artificially inflated prices. As a series of partial but inadequate disclosures were issued, and as the foreseeable risks previously concealed by Defendants' material misstatements and omissions partially materialized, the price of Vale securities substantially declined.

407. At the time of the material misrepresentations alleged herein, Plaintiffs were ignorant of their falsity, and believed them to be true. Had Plaintiffs known the truth with respect to the business, operations, performance and prospects of Vale, which was concealed by Defendants, Plaintiffs would not have purchased or acquired Vale Common ADS and Preferred ADS, or if they had purchased or acquired such securities, they would not have done so at the artificially inflated prices that they paid.

408. By virtue of the foregoing, Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio have violated Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder.

409. As a direct and proximate result of Defendants' wrongful conduct, Plaintiffs have suffered damages in connection with their transactions in Vale Common ADS and Preferred ADS.

410. Taking into account, *inter alia*, tolling of the limitations period by the filing of the Class Action complaint against Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio, Plaintiffs have brought this claim within two years of discovery of the violations alleged herein, and within five years of the violations alleged herein. Consequently, this action is timely.

## **SECOND CAUSE OF ACTION**

### **Violations of Section 20(a) of the Exchange Act Against Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio**

411. Plaintiffs repeat and reallege each and every allegation contained in each of the foregoing paragraphs as if set forth fully herein.

412. This Cause of Action is asserted against Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio and is based upon Section 20(a) of the Exchange Act, 15 U.S.C. § 78t(a).

413. Each of Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio was a controlling person of Vale within the meaning of Section 20(a) of the Exchange Act.

414. By virtue of their high level positions, and their ownership and contractual rights, substantial participation in, and/or awareness of, the Company's operations and/or knowledge or reckless disregard of the materially false and misleading statements filed with the SEC and/or disseminated to the investing public, Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio had the power to influence and control, and did in fact influence and control, directly or indirectly, the decision-making of the Company.

415. Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio were provided with or had unlimited access to copies of the Company's reports, press releases, public filings, and other statements alleged herein to be materially false and misleading prior to and/or shortly after these statements were issued and had the ability to prevent the issuance of the statements or cause the statements to be corrected. In particular, Defendants Ferreira, Schvartsman, Siani, Poppinga, and



Osorio each had direct and supervisory involvement in the day-to-day operations of the Company, and therefore are presumed to have had the power to control or influence the particular false and misleading statements and omissions giving rise to the securities violations alleged herein.

416. Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio culpably participated in Vale's violation of Section 10(b) and Rule 10b-5 with respect to the First Cause of Action.

417. By reason of the conduct alleged in the First Cause of Action, Vale is liable for violations of Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder, and Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio are liable pursuant to Section 20(a) based on their control of Vale.

418. Defendants Ferreira, Schvartsman, Siani, Poppinga, and Osorio are liable for the aforesaid wrongful conduct, and are liable to Plaintiffs for the substantial damages suffered in connection with their purchases or acquisitions of Vale Common ADS and Vale Preferred ADS.

419. Taking into account, *inter alia*, tolling of the limitations period by the filing of the Class Action complaint against Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio, Plaintiffs have brought this claim within two years of discovery of the violations alleged herein, and within five years of the violations alleged herein. Consequently, this action is timely.

### **THIRD CAUSE OF ACTION**

#### **Violations of Section 18 of the Exchange Act Against Defendants Vale, Ferreira, Schvartsman, and Siani**

420. Plaintiffs repeat and reallege each and every allegation contained in paragraphs 1 through 310 and 343 through 398 above as if set forth herein.

421. Plaintiffs' investment team actually and justifiably read, and had direct eyeball reliance on, Vale's 2016 Annual Report and Vale's 2017 Annual Report (to the extent published at the time of purchase or acquisition).

422. Specifically, an investment professional at Orbis read and actually relied upon information contained in Vale's 2016 Annual Report and Vale's 2017 Annual Report (to the extent each such document was on file with the SEC at the time) in making each purchase or acquisition of Vale securities on behalf of Plaintiffs, as further described above in paragraphs 343 through 347.

423. In ignorance of the falsity of Defendants' statements, or of the true facts, Plaintiffs purchased or acquired Vale Common ADS and Preferred ADS in actual, justifiable, eyeball reliance upon Defendants' representations.

424. Defendants' materially false and misleading statements and omissions of material fact artificially inflated the price of Vale Common ADS and Preferred ADS.

425. Had they known the true facts, Plaintiffs would not have purchased or acquired Vale Common ADS and Preferred ADS and/or would not have purchased or acquired the shares at the inflated prices they paid.

426. Upon disclosure of the true facts, the price of Vale Common ADS dropped, and Plaintiffs suffered damages in an amount to be proven at trial.

427. By reason of the foregoing, Defendants Vale, Ferreira, Schvartsman, and Siani are liable to Plaintiffs for violations of Section 18 of the Exchange Act, 15 U.S.C. §78r.

428. Taking into account, *inter alia*, tolling of the limitations period by the filing of the Class Action complaint against Defendants Vale, Ferreira, Schvartsman, and Siani, Plaintiffs have

brought this claim within two years of discovery of the violations alleged herein, and within five years of the violations alleged herein. Consequently, this action is timely.

**FOURTH CAUSE OF ACTION**

**Common Law Fraud  
Against All Defendants**

303. Plaintiffs repeat and reallege each and every paragraph contained above as if set forth herein.

304. As alleged above, Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio made material misrepresentations of material fact as set forth above.

305. These misrepresentations were made intentionally, or at a minimum, recklessly, to induce reliance thereon by Plaintiffs when making decisions to invest in Vale Common ADS and Vale Preferred ADS.

306. These misrepresentations constitute fraud and deceit under the common law.

307. Plaintiffs actually and reasonably relied upon the representations when making decisions to purchase Vale Common ADS and Vale Preferred ADS and did not know of any of the misrepresentations or omissions.

308. As a direct and proximate result of the fraud and deceit by Defendants Vale, Ferreira, Schvartsman, Siani, Poppinga, and Osorio, Plaintiffs suffered damages in connection with their investment in Vale Common ADS and Vale Preferred ADS.

429. Defendants' wrongful conduct, as described above, was malicious, reckless, willful, and was directed at the general investing public. Accordingly, punitive damages, in addition to compensatory damages, are appropriate to deter fraudulent conduct of this kind.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs respectfully request relief and judgment, as follows:

- (a) Awarding compensatory damages against Defendants for all damages sustained as a result of Defendants' wrongdoing, in an amount to be proven at trial, including pre-judgment and post-judgment interest thereon;
- (b) Awarding punitive damages against Defendants;
- (c) Awarding Plaintiffs their reasonable costs and expenses incurred in this action; and
- (d) Such other and further relief as the Court may deem just and proper.

**JURY DEMAND**

The Plaintiffs hereby demand a trial by jury as to all issues so triable.

Dated: November 24, 2021  
New York, New York

ROLNICK KRAMER SADIGHI LLP

By: /s/ Lawrence M. Rolnick  
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